U.S. Department
of Transportation
**Federal Aviation
Administration**

SDR Summary

Service Difficulty Reporting

March 22, 1998 - March 28, 1998

GENERAL AVIATION, ZAC-327

You can improve Air Safety by reporting the problem when you see it!

SECTION

ISSUE: 98-13

U.S. Department of Transportation
Federal Aviation Administration

SDR SUMMARY

General Aviation, ZAC-327

This summary includes domestic (United States) Service Difficulty Reports (SDRs) entered into the data base for aircraft weighing 12,500 lbs. and below. It also includes reports on aeronautical products (engines, propellers, and components), and all helicopters. A separate section for International SDRs for aircraft weighing 12,500 lbs. and under has also been included. Under a data exchange agreement, International SDRs are submitted to the FAA by the Civil Aviation Authority of other countries (currently, Canada - CAN, and Australia - AUS). All reports are sorted by aircraft make, model group (basic model), and Joint Aircraft System/Component (JASC) code. Within each aircraft model group, the specific model shown may vary, but similar types of reports will be grouped together and listed in ascending order by their JASC code. Each field contains all information submitted to the FAA. Some fields are not included in order to make the summary easier to read. Additional information may be obtained by referring to the "operator control number." Send your request to the Aviation Data Systems Branch, AFS-620 at the address or phone below.

The Regulatory Support Division (AFS-600) has established a "HomePage" on the Internet through which the same information is available. There is a large quantity of other information available through the AFS-600 HomePage such as the most current SDR system codes (i.e., Joint Aircraft System\Component Codes). The SDR Question and Answer Section of the Summary will also be transferred to the AFS-600 HomePage to simplify the process of preparing the SDR Summaries in the PDF format each week. There are "hot buttons" to take you to other locations and sites where FAA Flight Standards Service Information is available. The AFS-600 "HomePage" address is:

http://www.mmac.jccbi.gov/afs/afs600

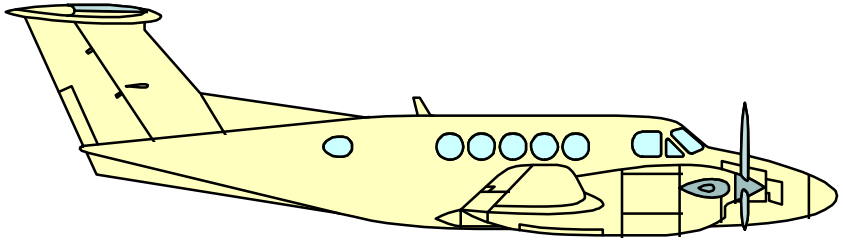
"The Service Difficulty Reports in this publication are derived from unverified information submitted by the aviation community without FAA verification for accuracy. The number of SDRs submitted is not an indication of the mechanical reliability or fitness of an airline or individual operator, and the information should not be used as such."

Comments are welcomed and may be directed to:

Federal Aviation Administration
Aviation Data Systems Branch, AFS-620
P.O. Box 25082
Oklahoma City, OK 73125-5029
Phone: (405) 954-4171, Fax: (405) 954-4748

Your continued participation is essential and is an integral part of ensuring aviation safety. Thank you for supporting the Service Difficulty Program! If you have any questions regarding this special notice you can contact John Jackson at (405) 954-6486, or Jim Gillespie at (405) 954-1141, or Blake McDonald at (405) 954-0307 in the Aviation Systems Branch (AFS-620). Their E-mail addresses are:

john_e_jackson@mmacmail.jccbi.gov **james_gillespie@mmacmail.jccbi.gov** **blake_mcdonald@mmacmail.jccbi.gov**



SIGNIFICANT OCCURRENCE REPORT

U.S. Department
of Transportation
Federal Aviation Administration

THE SIGNIFICANT OCCURRENCE REPORT

The Significant Occurrence Report is a compilation all of the star bordered reports that appear in the General Aviation Service Difficulty Report (SDR) Summary, ZAC-327. The Significant Occurrence Report is used to highlight industry problem areas to field inspectors and the aviation public.

Limited analysis is performed by the Aviation Data Systems Branch, AFS-620 during the preparation of the "Significant Occurrence Report", which is generated each week and is included in the front of the Air Carrier SDR Summary. Significant Reports are hand selected by AFS-620's inspectors based on the individual merit of each report. The criteria for selection includes, but is not limited to, items that indicate high failure rates; items related to accidents or incidents; or design or maintenance failures which may affect the safe operation of the aircraft.

In some cases, this limited analysis of SDR data leads to the preparation of information bulletins which are routed to the appropriate product certification office for further investigation of the problem. The end result may be the issuance of an airworthiness directive (AD) by the Aircraft Certification Service (AIR) if warranted.

The Significant Occurrence Report (section I) of the weekly SDR Summary is not intended to be a summary of all significant events and should not be used as such. We recommend that you review further the applicable sections of the SDR summary that may be of interest.

GENERAL AVIATION SIGNIFICANT OCCURRENCE REPORT

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
5740	438RJ	AIRTRC				ANGLE	CRACKED	1241	3/2/98
Q2AR	502A0345	AT502A					WING ATTACH OTBD		98ZZZX1162
*****	DURING ANNUAL INSPECTION AND C/W WING ATTACH ANGLE BOLT INSPECTION, OUTBOARD WING ATTACHMENT ANGLE FOUND CRACKED.								
5520	77412	CESSNA				BEARING	WORN	4626	2/15/98
	11853	120				042215	ELEVATOR HINGE		98ZZZX1137
*****	INSPECTION FOUND INNER RACE ELEVATOR HINGE BEARING INSIDE DIAMETER WORN EXCESSIVELY. REPLACED BEARING AND BOLT.								
5753	4642J	CESSNA				BEARING	FAILED	7200	1/13/98
	17273658	172N				0523920	RT OUTER AFT		98ZZZX1134
*****	DURING TOUCH AND GO PRACTICE, RT FLAP OUTER AFT BEARING FAILED DURING RETRACTION. THE FAILURE CAUSED THE FLAP TO BIND AND TRIP CIRCUIT BREAKER, BUT NOT UNTIL AFTER THE RT FLAP HAD BEEN DAMAGED BY THE BINDING. THE FLAP SKINS AND SPAR WERE DAMAGED OUTBOARD OF PUSH/PULL ROD. DAMAGED ENOUGH TO WARRANT REPAIR OF FLAP. THE AIRCRAFT WAS INSPECTED PER A 100-HOUR 45 HOURS BEFORE WITH NO DEFECTS FOUND.								
5753	94035	CESSNA				BEARING	SEIZED	1960	1/26/98
	21060487	T210L				0523920	FLAP ROLLER		98ZZZX1132
*****	DURING AN ANNUAL INSPECTION TO CHECK FLAP BEARINGS AFTER A FAILURE ON A CE-172, FOUND 10 OUT OF 12 BEARINGS WITH THE NEEDLE BEARINGS SEIZED. NO VISUAL SIGN OF WEAR. CLEANED, LUBED, REINSTALLED. SUBMITTER RECOMMENDED 1,000-HOUR INSPECTIONS REQUIRING REMOVAL.								
2140	2644U	CESSNA				FUEL LINE	CORRODED		3/4/98
	310R1811	310R			8259JR2		HEATER		98ZZZX1120
*****	DURING ANNUAL INSPECTION AND BY C/W AD 81-09-09 BY VISUAL INSPECTION, CORROSION WAS FOUND ON THE FORWARD FUEL INLET LINE AFT OF THE HEATER PUMP VALVE. SUBMITTER STATED THIS IS THE THIRD LINE FOUND WITH THIS PROBLEM ON THREE DIFFERENT 310R'S.								
3230	5092P	CESSNA				TUBE ASSY	FAILED	7451	3/9/98
	310P0057	310P				08421211	NLG		98ZZZX1110
*****	NOSE GEAR ROD END ASSY FAILED. THE BEARING WAS FREE AND NOT SEIZED.								
5700	340TS	CESSNA				NACELLE	CORRODED	2095	2/16/98
XM8R	340A0999	340A				562010023	LT WING ASSY		98ZZZX1144
*****	FUEL LEAKING FROM RT WING FND COMING FROM RT NACELLE FUEL CELL. REMOVED NACELLE ACCESS COVER, FUEL CELL LINER, HEAT SHIELD, AND FUEL CELL. SEVERE CORROSION FND ON UPPER WING SKIN AND STRS. FUEL CELL LINER CORRODED (EXFOLIATED). ALSO, LT NACELLE INSPECTED FOR SIMILAR CONDITION. AFTER REMOVAL OF LT NACELLE COVER AND FUEL CELL, SEVERE CORROSION FND. UPPER WING SKIN, STRINGERS AND UPPER SPAR CAP ARE ALL EXFOLIATED. AFT SIDE OF LT FIREWALL DISCOLORED FROM HEAT AND FUEL CELL HEAT SHIELD IS BURNED THROUGH. HEAT DAMAGE MAY BE CAUSED BY A PREVIOUS EXH FAILURE. ACFT IS WELL MAINTAINED, HANGARED MOST OF THE YEAR AND NOT HIGH TIME. SUBMITTER BELIEVES THIS IS A PROBLEM THAT MAY GO UNDETECTED ON SIMILAR ACFT.								
2510	87144	CESSNA				BRACKET	FAILED		2/25/98
	402B0933	402B					PILOT SEAT BACK		98ZZZX1174
*****	PILOT SEAT BACK RECLINED IN-FLIGHT. BRACKET ON RIGHT SIDE OF SEAT BROKEN. CASTING APPEARS TO HAVE BEEN CRACKED PRIOR TO FAILURE.								
2731	PHECA	CESSNA				ELEV TAB	MISRIGGED	3700	3/8/98
	0321	414A					ELEV TRIM		98ZZZX1181
*****	DURING A 1,000 HR INSP ON RUD-AIL, AND ELEV TRIM IAW CE 414 SM, REV 31, FOUND ELEV TRIM TAB TRAVEL WAS 12 DEG UP/21 DEG DOWN. CHECKED MANUAL FOR TRAVELS OF TRIM TABS AND FOUND IN MM, REV 31, RIGGINGS FOR ELEV TRIM TAB UP: 5 DEG AND DOWN: 30 DEG. DOUBLE CK MM REV HISTORY, FOUND ELEV TRIM TAB TRAVELS ALTERED WITH MM REV 31, DATED 2-3-97. (OLD TRAVELS WERE: 12 DEG UP AND 20 DEG DOWN, TOL. +1 DEG). DURING INSTALL, SET TRAVELS IAW MM REV 31: 5 DEG UP AND 30 DEG DOWN. FIRST FLIGHT (TRIM NEUTRAL) ACFT EXPERIENCED A NOSE UP AT TAKE OFF THAT COULD NOT BE CORRECTED BY TRIMMING THE ELEV; IT WAS AGAINST ITS 'NOSE DOWN' STOP, AND FORCE HAD TO BE IMPOSED UPON COLUMN TO KEEP ACFT IN LEVEL FLIGHT.								

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7120	441W	CESSNA				MOUNT	CRACKED	5039	2/12/98
WTXR	4410181	441				57510061	LT ENG INBD		98ZZZX1122
*****	WHILE INVESTIGATING A ROUGH ENGINE, FOUND AN ENGINE MOUNT TUBE CRACKED THROUGH ON LT ENGINE INBOARD, UPPER CLUSTER, LOWER TUBE. INSTALLED DIFFERENT REPAIRED TRUSS.								
2435		DHAV	PWA		LUCAS	BEARING	UNAPPROVED		12/18/97
		DHC6300	PT6A27		23048004	9204SSX10	START/GEN	987	CA971231025
*****	(CAN) INSPECTION FOUND THAT THE BEARINGS WERE UNAPPROVED FOR THIS INSTALLATION. THE BEARING FOUND WAS MANUFACTURED BY BARDEN. ONLY LUCAS BEARINGS P/N 03-6010-18 SHOULD BE USED. THERE WAS ALSO A BRASS SHIM BETWEEN THE DRIVE SHAFT AND THE DAMPER HUB ALLOWING THE HUB TO SIT LOWER DOWN ON THE SHAFT. THIS IS ALSO AN UNAPPROVED PRACTICE. IN ADDITION, THE FRONT END BELL LINER WAS NOT REPAIRED PER APPROVED SPECS.								
2430	19PV	GULSTM				GROUND CONNECT	LOOSE	514	3/13/98
	560416	560					START/GENERATOR		98ZZZX1169
*****	PILOTS REPORTED A PARALLELING PROBLEM WITH THE GENERATORS. INSPECTION REVEALED BOTH STARTER/GENERATOR GROUND CONNECTIONS WERE LOOSE. MINOR ARCING WAS NOTED ON LEFT GROUND. BOTH CONNECTIONS WERE CLEANED AND RESEATED. THIS CONDITION RESULTED FROM IMPROPER TORQUE OF ATTACHING HARDWARE.								
5711	600AA	PIPER				SPAR CAP	CORRODED	4577	3/18/98
	2825102	PA28140					AFT SPAR CAP		98ZZZX1172
*****	DURING WING INSPECTION, FOUND EVERY WHERE THAT SOUNDPROOF INSULATION COMES IN CONTACT WITH THE FERROUS AFT SPAR CAP, THAT CORROSION SETS IN DUE TO THE MOISTURE THAT THE INSULATION HOLDS.								
2140	63ND	PIPER				HEATER	FAILED	362	3/5/98
	317852098	PA31350				B405065D722	FORWARD		98ZZZX1123
*****	DURING FLIGHT, THE COCKPIT FILLED WITH A GREENISH, YELLOW SMOKE EMANATING FROM THE DEFROST AND HEATER DUCTS. PILOT SHUT DOWN THE FORWARD HEATER AND EVACUATED THE SMOKE FROM THE CABIN. THE FLIGHT CONTINUED TO THE ORIGINAL DESTINATION. THE AIRCRAFT WAS INSPECTED AND FOUND UNDAMAGED. THE FORWARD HEATER HAD OVERHEATED. WITHOUT FURTHER INSPECTION OF THE HEATERS, THE DAMAGE AND SYMPTOMS ARE CONSISTENT WITH A PERFORATED BURNER CAN. THIS COMBUSTION HEATER HAD A PRESSURE DECAY TEST IAW AD 96-20-07 ON 1-18-98, AND HAD ACCUMULATED 62.4 HEATER HOURS OF OPERATION SINCE THAT DATE.								
6710	159RP	ROBSIN				SPRING ASSY	FAILED	199	3/12/98
	0342	R44			C5811	C0561	LATERAL TRIM		98ZZZX1164
*****	WHILE PERFORMING INSPECTION FOR AD 98-06-12, FOUND LATERAL TRIM SPRING ASSY PULLED COMPLETELY OUT OF MOUNTING BLOCK AND DANGLING AGAINST BELLY SKIN. TRIM MOTOR ARM P/N C581-1 FROZEN ON SPRING SHAFT. SUBMITTER STATED HAD THIS UNIT FAILED IN-FLIGHT, LOSS OF CONTROL WOULD HAVE BEEN POSSIBLE. THE REPLACEMENT SPRING ASSY LOWER BEARING IS STAKED INTO THE MOUNTING BLOCK, YET THIS IS NOT THE CAUSE OF THE AD. SUBMITTER RECOMMENDED REVISION OF AD 98-04-12 TO REQUIRE IMMEDIATE REPLACEMENT OF AFFECTED SPRING ASSY REGARDLESS OF SHAFT WEAR.								
6710	972SA	ROBSIN				SHAFT	WORN	63	1/22/98
	0394	R44				C5851	CYCLIC CONTROL		98ZZZX1115
*****	ROTORCRAFT EXPERIENCED A PARTIAL CYCLIC CONTROL FAILURE WHILE LANDING. PILOT WAS UNABLE TO ROLL LEFT USING CYCLIC INPUT. INVESTIGATION REVEALED THAT LATERAL TRIM ACTUATOR ASSEMBLY SHAFT, PN C585-1, HAD A STEP WORN IN IT WHICH ALLOWED THE TRIM ACTUATOR TO JAM. THREE ADDITIONAL AIRCRAFT INSPECTED REVEALED THE SAME PROBLEM. LATERAL TRIM ACTUATOR ASSEMBLY WAS REPLACED ON ALL 4 AIRCRAFT. SAFETY RECOMMENDATIONS SUBMITTED. AD 98-04-12 ISSUED TO INSPECT AND CORRECT THIS PROBLEM ON ALL R44 HELICOPTERS.								

(End of GENERAL AVIATION SIGNIFICANT OCCURRENCE REPORT)

Run Date: 02-Apr-98

FEDERAL AVIATION ADMINISTRATION

SIGNIFICANT OCCURRENCE REPORT INDEX

Showing Specific Part Numbers and Aircraft Model by Year

FOR THE PERIOD OF: 3/22/98 To 3/28/98

PART NUMBER / PART NAME	ACFT MODEL	TOTAL	YEAR 1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
042215														
BEARING	120	**1**	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 042215		**1**	-	-	-	-	-	-	-	-	-	-	-	1
0523920														
BEARING	172N	**1**	-	-	-	-	-	-	-	-	-	-	-	1
	T210L	**1**	-	-	-	-	-	-	-	-	-	-	-	1
BUSHING	172N	**1**	-	-	-	-	-	-	-	-	1	-	-	-
ROLLER	172	**1**	-	-	-	1	-	-	-	-	-	-	-	-
	172M	**1**	-	-	-	1	-	-	-	-	-	-	-	-
	172N	**1**	-	-	-	-	-	-	-	-	-	-	1	-
	TU206G	**1**	-	-	-	-	-	-	-	-	1	-	-	-
ROLLER ASSY	172M	**1**	-	-	-	-	-	-	-	-	-	-	-	1
	172RG	**1**	-	-	-	-	-	-	-	-	-	1	-	-
	182C	**1**	-	-	-	-	-	-	1	-	-	-	-	-
TOTAL of # 0523920		**10**	-	-	-	2	-	-	1	-	2	1	1	3
08421211														
BELLCRANK	310L	**1**	-	-	-	-	-	-	-	-	1	-	-	-
PUSH PULL ROD	320F	**1**	-	-	-	1	-	-	-	-	-	-	-	-
PUSH-PULL TUBE	310K	**1**	-	-	-	-	-	-	-	-	1	-	-	-
RETRACT TUBE	310Q	**1**	-	-	-	1	-	-	-	-	-	-	-	-

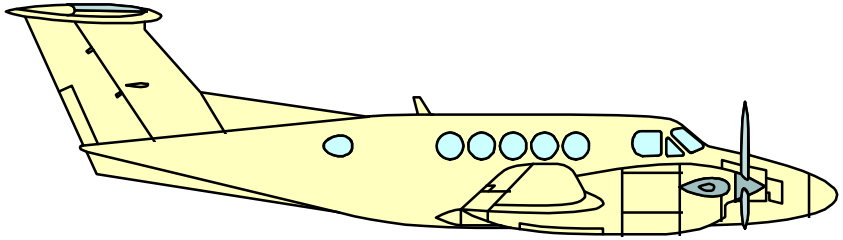
PART NUMBER / PART NAME	ACFT MODEL	TOTAL	YEAR 1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
08421211														
ROD ASSEMBLY	310N	**1**	-	-	-	-	-	1	-	-	-	-	-	-
TUBE	310Q	**1**	-	-	-	1	-	-	-	-	-	-	-	-
TUBE ASSY	310A	**1**	-	-	-	-	-	-	-	-	1	-	-	-
	310L	**1**	-	-	-	-	-	-	-	-	-	-	1	-
	310P	**1**	-	-	-	-	-	-	-	-	-	-	-	1
	310Q	**1**	-	-	-	-	-	-	-	1	-	-	-	-
	T310Q	**1**	-	-	-	-	-	-	-	1	-	-	-	-
TOTAL of # 08421211		**11**	-	-	-	3	-	1	-	2	3	-	1	1
5011002593														
SKIN	B300C	**1**	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 5011002593		**1**	-	-	-	-	-	-	-	-	-	-	-	1
562010023														
NACELLE	340A	**1**	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 562010023		**1**	-	-	-	-	-	-	-	-	-	-	-	1
57510061														
MOUNT	441	**1**	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 57510061		**1**	-	-	-	-	-	-	-	-	-	-	-	1
5A26441														
RESERVOIR	747438	**1**	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 5A26441		**1**	-	-	-	-	-	-	-	-	-	-	-	1
9204SSX10														
BEARING	DHC6300	**1**	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 9204SSX10		**1**	-	-	-	-	-	-	-	-	-	-	-	1
B405065D722														
HEATER	PA31350	**1**	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # B405065D722		**1**	-	-	-	-	-	-	-	-	-	-	-	1
C0561														
SPRING ASSY	R44	**2**	-	-	-	-	-	-	-	-	-	-	1	1

PART NUMBER / PART NAME	ACFT MODEL	TOTAL	YEAR 1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
TOTAL of # C0561 - - - - - - - - - - - - - - - -		**2**	-	-	-	-	-	-	-	-	-	-	1	1
C5851														
SHAFT	R44	**1**	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # C5851 - - - - - - - - - - - - - - - -		**1**	-	-	-	-	-	-	-	-	-	-	-	1
F12A11														
BEARING	unknown	**1**	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # F12A11 - - - - - - - - - - - - - - - -		**1**	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL for ALL (31) PART NUMBERS: - - - -		**32**	-	-	-	5	-	1	1	2	5	1	3	14

END OF SIGNIFICANT OCCURRENCE REPORT INDEX

DOMESTIC

SERVICE DIFFICULTY REPORT



DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
5740	438RJ	AIRTRC				ANGLE	CRACKED	1241	3/2/98
Q2AR	502A0345	AT502A					WING ATTACH OTBD		98ZZZX1162
*****	DURING ANNUAL INSPECTION AND C/W WING ATTACH ANGLE BOLT INSPECTION, OUTBOARD WING ATTACHMENT ANGLE FOUND CRACKED.								
7603	5169X	BBAVIA				CABLE	FAILED	2487	3/3/98
	676	7ECA				31402	THROTTLE		98ZZZX1119
	THROTTLE CABLE BROKE APPROXIMATELY 1.5 INCHES FROM THROTTLE LEVER. OLDER AIRCRAFT USED QQ-2-470 MUSIC WIRE .090 INCH DIAMETER. INNERGRANULAR CORROSION WAS NOTED IN THE BROKEN AREA. SUBMITTER RECOMMENDED CABLE BE REPLACED WITH 20253-P2 PIN MATERIAL OR UPGRADE AIRCRAFT TO LATE MODEL CABLE SYSTEM.								
2434	3058S	BEECH				ALTERNATOR	FAILED		3/15/97
	CE1099	F33A				646843	WINDING		98ZZZX1128
	PILOT EXPERIENCED ELECTRICAL SYSTEM FAILURE. MADE EMERGENCY LANDING WITHOUT INCIDENT. FOUND ALTERNATOR FAILED.								
2721	955AA	BEECH				NUT	CORRODED	28112	2/1/98
TIMA	UI28	99A				AN3166R	RUD TAB ACTUATOR		98ZZZX1171
	RUDDER TAB ACTUATOR NUT FOUND CORRODED DURING ROUTINE INSPECTION.								
5520	77412	CESSNA				BEARING	WORN	4626	2/15/98
	11853	120				042215	ELEVATOR HINGE		98ZZZX1137
*****	INSPECTION FOUND INNER RACE ELEVATOR HINGE BEARING INSIDE DIAMETER WORN EXCESSIVELY. REPLACED BEARING AND BOLT.								
5711	77412	CESSNA				SPAR BLOCK	CORRODED	4626	2/15/98
	11853	120				0411131	FRONT SPAR		98ZZZX1135
	BLOCK 5 (4, NR 0411129) REMOVED. CHECKED INSIDE OF FRONT AND REAR SPARS. SLIGHT CORROSION FOUND. CLEANED AND PAINTED WITH ZINC CHROMATE. MOST BOLTS FROZEN INTO BLOCKS. BOLTS HAD TO BE POUNDED OR DRILLED OUT. RECOMMEND THAT BLOCKS BE REMOVED IF WINGS ARE TAKEN OFF FOR ANY REASON TO CHECK INSIDE OF SPARS.								
5711	77412	CESSNA				SPAR BLOCK	CORRODED	4626	2/15/98
	11853	120				0411476	REAR SPAR		98ZZZX1136
	BLOCK 5 (4, NR 0411129) REMOVED. CHECKED INSIDE OF FRONT AND REAR SPARS. SLIGHT CORROSION FOUND. CLEANED AND PAINTED WITH ZINC CHROMATE. MOST BOLTS FROZEN INTO BLOCKS. BOLTS HAD TO BE POUNDED OR DRILLED OUT. RECOMMEND THAT BLOCKS BE REMOVED IF WINGS ARE TAKEN OFF FOR ANY REASON TO CHECK INSIDE OF SPARS.								
5753	4642J	CESSNA				BEARING	FAILED	7200	1/13/98
	17273658	172N				0523920	RT OUTER AFT		98ZZZX1134
*****	DURING TOUCH AND GO PRACTICE, RT FLAP OUTER AFT BEARING FAILED DURING RETRACTION. THE FAILURE CAUSED THE FLAP TO BIND AND TRIP CIRCUIT BREAKER, BUT NOT UNTIL AFTER THE RT FLAP HAD BEEN DAMAGED BY THE BINDING. THE FLAP SKINS AND SPAR WERE DAMAGED OUTBOARD OF PUSH/PULL ROD. DAMAGED ENOUGH TO WARRANT REPAIR OF FLAP. THE AIRCRAFT WAS INSPECTED PER A 100-HOUR 45 HOURS BEFORE WITH NO DEFECTS FOUND.								
5312	42279	CESSNA				BULKHEAD	CRACKED	4208	3/5/98
	18258940	182L				07126161	RT RUD STOP		98ZZZX1178
	BULKHEAD FOUND CRACKED AT RIGHT RUDDER STOP APPROXIMATELY .50 INCH LONG. REMOVED AND REPLACED BULKHEAD ASSY. THIS REPORT SUBMITTED IN C/W AD 72-07-09.								
3246	4535F	CESSNA				NUT	STRIPPED		3/16/98
	1851021	A185E				AN365	LT MLG		98ZZZX1175
	DURING SMOOTH LANDING, LEFT WHEEL/TIRE ASSY DEPARTED AIRCRAFT. TIRE/WHEEL ASSY WAS PROPERLY FAA APPROVED, BUT OVERSIZE. NAS BOLTS HOLDING AXLE TO GEAR LEG STRIPPED THROUGH THE AN365 NUTS. RECOMMEND THIS INSTALLATION FOR GRAVEL RUNWAY USE ONLY.								

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
5312	5837F	CESSNA				BULKHEAD	CRACKED		3/10/98
	21058837	210G				12128582	BS 230.187		98ZZZX1138
	BULKHEAD FOUND CRACKED DURING ANNUAL INSPECTION PER AD 72-07-09. EFFECTIVE DATE 4-1-72.								
5753	94035	CESSNA				BEARING	SEIZED	1960	1/26/98
	21060487	T210L				0523920	FLAP ROLLER		98ZZZX1132
*****	DURING AN ANNUAL INSPECTION TO CHECK FLAP BEARINGS AFTER A FAILURE ON A CE-172, FOUND 10 OUT OF 12 BEARINGS WITH THE NEEDLE BEARINGS SEIZED. NO VISUAL SIGN OF WEAR. CLEANED, LUBED, REINSTALLED. SUBMITTER RECOMMENDED 1,000-HOUR INSPECTIONS REQUIRING REMOVAL.								
5753	94035	CESSNA				BEARING	SEIZED	1960	1/26/98
	21060487	T210L				0523921	FLAP ROLLER		98ZZZX1133
	DURING AN ANNUAL INSPECTION TO CHECK FLAP BEARINGS AFTER A FAILURE ON A CE-172, FOUND 10 OUT OF 12 BEARINGS WITH THE NEEDLE BEARINGS SEIZED. NO VISUAL SIGN OF WEAR. CLEANED, LUBED, REINSTALLED. SUBMITTER RECOMMENDED 1,000-HOUR INSPECTIONS REQUIRING REMOVAL.								
2140	2644U	CESSNA				FUEL LINE	CORRODED		3/4/98
	310R1811	310R			8259JR2		HEATER		98ZZZX1120
*****	DURING ANNUAL INSPECTION AND BY C/W AD 81-09-09 BY VISUAL INSPECTION, CORROSION WAS FOUND ON THE FORWARD FUEL INLET LINE AFT OF THE HEATER PUMP VALVE. SUBMITTER STATED THIS IS THE THIRD LINE FOUND WITH THIS PROBLEM ON THREE DIFFERENT 310R'S.								
3230	5092P	CESSNA				TUBE ASSY	FAILED	7451	3/9/98
	310P0057	310P				08421211	NLG		98ZZZX1110
*****	NOSE GEAR ROD END ASSY FAILED. THE BEARING WAS FREE AND NOT SEIZED.								
5312	3038R	CESSNA				SUPPORT	BUCKLED	13	3/9/98
	320A0038	320A				081107510	AFT CABIN		98ZZZX1112
	DURING ANNUAL INSPECTION, FOUND REAR CABIN BULKHEAD SUPPORT (PN 0811075-10) BUCKLED. UPON FURTHER DISASSEMBLY, FOUND FITTING SEVERELY CORRODED.								
5711	3038R	CESSNA				FITTING	CORRODED	13	3/9/98
	320A0038	320A				08112763	SPAR AFT CABIN		98ZZZX1113
	DURING ANNUAL INSPECTION, FOUND REAR CABIN BULKHEAD SUPPORT (PN 0811075-10) BUCKLED. UPON FURTHER DISASSEMBLY, FOUND FITTING SEVERELY CORRODED.								
3213	4104G	CESSNA				STRUT	WORN	4400	2/25/98
A19R	340A0279	340A				5141001213	LOWER LINK LUG		98ZZZX1161
	INSPECTION OF LOWER GEAR STRUT ASSY FOUND LUG HOLES ELONGATED IN LINE WITH LOWER TORQUE LINK. SUSPECT CORROSION INDUCED WEAK DUE TO POOR LUBE HISTORY AND EXTREME CLIMATE.								
5412	340TS	CESSNA				HEAT SHIELD	BURNED		2/16/98
XM8R	340A0999	340A				56560061	LT FIREWALL		98ZZZX1143
	AFTER REMOVAL OF THE LEFT NACELLE COVER AND FUEL CELL, SEVERE CORROSION WAS FOUND. ALSO, AFT SIDE OF LT FIREWALL DISCOLORED FROM HEAT AND THE FUEL CELL HEAT SHIELD IS BURNED THROUGH. THE HEAT DAMAGE IS BELIEVED TO BE CAUSED BY A PREVIOUS EXHAUST FAILURE. THIS AIRCRAFT IS WELL MAINTAINED, HANGARED MOST OF THE YEAR, AND NOT HIGH TIME. SUBMITTER BELIEVES THIS IS A SERIOUS PROBLEM THAT MAY GO UNDETECTED ON MANY SIMILAR AIRCRAFT.								
5700	340TS	CESSNA				NACELLE	CORRODED	2095	2/16/98
XM8R	340A0999	340A				562010022	RT WING ASSY		98ZZZX1145
	FUEL LEAKING FROM RT WING FND COMING FROM RT NACELLE FUEL CELL. REMOVED NACELLE ACCESS COVER, FUEL CELL LINER, HEAT SHIELD, AND FUEL CELL. SEVERE CORROSION FND ON UPPER WING SKIN AND STRS. FUEL CELL LINER CORRODED (EXFOLIATED). ALSO, LT NACELLE INSPECTED FOR SIMILAR CONDITION. AFTER REMOVAL OF LT NACELLE COVER AND FUEL CELL, SEVERE CORROSION FND. UPPER WING SKIN, STRINGERS AND UPPER SPAR CAP ARE ALL EXFOLIATED. AFT SIDE OF LT FIREWALL DISCOLORED FROM HEAT AND FUEL CELL HEAT SHIELD IS BURNED THROUGH. HEAT DAMAGE MAY BE CAUSED BY A PREVIOUS EXH FAILURE. ACFT IS WELL MAINTAINED, HANGARED MOST OF THE YEAR AND NOT HIGH TIME. SUBMITTER BELIEVES THIS IS A PROBLEM THAT MAY GO UNDETECTED ON SIMILAR ACFT.								

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5700	340TS	CESSNA				NACELLE	CORRODED	2095	2/16/98
XM8R	340A0999	340A				562010023	LT WING ASSY		98ZZZX1144
*****	FUEL LEAKING FROM RT WING FND COMING FROM RT NACELLE FUEL CELL. REMOVED NACELLE ACCESS COVER, FUEL CELL LINER, HEAT SHIELD, AND FUEL CELL. SEVERE CORROSION FND ON UPPER WING SKIN AND STRS. FUEL CELL LINER CORRODED (EXFOLIATED). ALSO, LT NACELLE INSPECTED FOR SIMILAR CONDITION. AFTER REMOVAL OF LT NACELLE COVER AND FUEL CELL, SEVERE CORROSION FND. UPPER WING SKIN, STRINGERS AND UPPER SPAR CAP ARE ALL EXFOLIATED. AFT SIDE OF LT FIREWALL DISCOLORED FROM HEAT AND FUEL CELL HEAT SHIELD IS BURNED THROUGH. HEAT DAMAGE MAY BE CAUSED BY A PREVIOUS EXH FAILURE. ACFT IS WELL MAINTAINED, HANGARED MOST OF THE YEAR AND NOT HIGH TIME. SUBMITTER BELIEVES THIS IS A PROBLEM THAT MAY GO UNDETECTED ON SIMILAR ACFT.								
2510	87144	CESSNA				BRACKET	FAILED		2/25/98
	402B0933	402B					PILOT SEAT BACK		98ZZZX1174
*****	PILOT SEAT BACK RECLINED IN-FLIGHT. BRACKET ON RIGHT SIDE OF SEAT BROKEN. CASTING APPEARS TO HAVE BEEN CRACKED PRIOR TO FAILURE.								
2731	PHECA	CESSNA				ELEV TAB	MISRIGGED	3700	3/8/98
	0321	414A					ELEV TRIM		98ZZZX1181
*****	DURING A 1,000 HR INSP ON RUD-AIL, AND ELEV TRIM IAW CE 414 SM, REV 31, FOUND ELEV TRIM TAB TRAVEL WAS 12 DEG UP/21 DEG DOWN. CHECKED MANUAL FOR TRAVELS OF TRIM TABS AND FOUND IN MM, REV 31, RIGGINGS FOR ELEV TRIM TAB UP: 5 DEG AND DOWN: 30 DEG. DOUBLE CK MM REV HISTORY, FOUND ELEV TRIM TAB TRAVELS ALTERED WITH MM REV 31, DATED 2-3-97. (OLD TRAVELS WERE: 12 DEG UP AND 20 DEG DOWN, TOL. +1 DEG). DURING INSTALL, SET TRAVELS IAW MM REV 31: 5 DEG UP AND 30 DEG DOWN. FIRST FLIGHT (TRIM NEUTRAL) ACFT EXPERIENCED A NOSE UP AT TAKE OFF THAT COULD NOT BE CORRECTED BY TRIMMING THE ELEV; IT WAS AGAINST ITS 'NOSE DOWN' STOP, AND FORCE HAD TO BE IMPOSED UPON COLUMN TO KEEP ACFT IN LEVEL FLIGHT.								
5610	88584	CESSNA				WINDSHIELD	DEPARTED	7500	12/1/97
	421C0642	421C				5111604202	COPILOT		98ZZZX1173
	AS THE AIRCRAFT LEVELLED OFF AT 23,000 FEET MSL, THE COPILOT'S WINDSHIELD DEPARTED THE AIRCRAFT WITH ONLY APPROXIMATELY 10 PERCENT REMAINING ATTACHED TO THE AIRFRAME. SPECULATING THAT THE CRACK ORIGINATED AT THE RIGHT LOWER CORNER AND WENT STRAIGHT UP TO THE TOP OF THE WINDSHIELD. SUBMITTER STATED TO PREVENT, SHOULD HAVE RECURRING INSPECTION. REF: MEB 83-33R.								
7120	441W	CESSNA				MOUNT	CRACKED	5039	2/12/98
WTXR	4410181	441				57510061	LT ENG INBD		98ZZZX1122
*****	WHILE INVESTIGATING A ROUGH ENGINE, FOUND AN ENGINE MOUNT TUBE CRACKED THROUGH ON LT ENGINE INBOARD, UPPER CLUSTER, LOWER TUBE. INSTALLED DIFFERENT REPAIRED TRUSS.								
2430	19PV	GULSTM				GROUND CONNECT	LOOSE	514	3/13/98
	560416	560					START/GENERATOR		98ZZZX1169
*****	PILOTS REPORTED A PARALLELING PROBLEM WITH THE GENERATORS. INSPECTION REVEALED BOTH STARTER/GENERATOR GROUND CONNECTIONS WERE LOOSE. MINOR ARCING WAS NOTED ON LEFT GROUND. BOTH CONNECTIONS WERE CLEANED AND RESEATED. THIS CONDITION RESULTED FROM IMPROPER TORQUE OF ATTACHING HARDWARE.								
2434	727MB	PIPER			ELECTROSYS	ALTERNATOR	FAILED		3/16/98
	61P079680634	PA60601P				02035		9	98ZZZX1114
	OVERHAULED ALTERNATOR FROM ELECTROSYSTEMS FAILED 3 HOURS INTO FIRST FLIGHT AFTER INSTALLING. (INTERNAL FAILURE).								
2750		PIPER				SPRING	FAILED	4400	3/10/98
		PA28140				6282000	FLAP RETURN		98ZZZX1124
	DURING PRE-FLIGHT INSPECTION, PILOT PUSHED DOWNWARD ON FULLY EXTENDED FLAPS, HEARD SNAPPING NOISE AND NOTICED FLAPS EXTENDED AN ADDITIONAL 5 DEGREES BEYOND FULL EXTENDED POSITION AND LOCKED. FLAPS COULD NOT BE RAISED WITH FLAP CONTROL HANDLE. MAINTENANCE INVESTIGATION REVEALED THAT FLAP RETURN SPRING HAD BROKEN WHERE IT ATTACHES TO FLAP TORQUE TUBE SPROCKET CHAIN ALLOWING CHAIN TO DROP ONTO SPROCKET AND JAM BETWEEN LOWER FLAP INPUT CHAIN AND SPROCKET. SYSTEM IS DESIGNED SO THAT SPROCKET TOOTH AND SPRING ATTACH END ARE FORCED TO SHARE THE SAME CHAIN LINK WHENEVER FLAP CONTROL HANDLE IS PULLED FULL AFT. THIS NICKS SPRING AT ATTACH POINT AND EVENTUALLY CAUSES BREAKAGE.								

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2810	8777W	PIPER				FUEL TANK	MISINSTALLED		2/1/98
	2810321	PA28235					LT/RT MAIN		98ZZZX1118
	FOUND LT AND RT MAIN FUEL TANKS INSTALLED WITH AN 526-C NON-STRUCTURAL SCREWS OF ASSORTED WRONG LENGTHS. THIS INSTALLATION CALLS FOR 60 EACH MS 27039C-8-12 (OR EQUIVALENT) STRUCTURAL SCREWS ALONG THE SPAR, TOP AND BOTTOM, AND 80 EACH MS 27039C-8-9 SCREWS ALONG THE SIDES OF THE TANKS. THESE TANKS WERE REPAIRED AND INSTALLED IN JANUARY, 1997 (BY OWNER RECOLLECTION). AIRCRAFT RECORDS NOT AVAILABLE FOR EXACT DATES AND TIMES.								
3246	2558M	PIPER			PARKERHANFIN	WHEEL	CRACKED	3592	2/23/98
MOGR	287890256	PA28181				04008602	BOLT HOLE		98ZZZX1107
	WHILE CHANGING TIRE, FOUND WHEEL CRACKED AT BOLT HOLE. HOLE APPEARED TO BE DRILLED OFF-CENTER. ALSO, AREA BELOW TIRE BEAD GOUGED PREVIOUSLY BY SHARP OBJECT USED TO BREAK TIRE LOOSE. WHEEL REPLACED WITH NEW.								
3246	2558M	PIPER				WHEEL	GOUGED	3592	2/23/98
MOGR	287890256	PA28181				04008602	BEAD AREA		98ZZZX1106
	WHILE CHANGING TIRE, FOUND AREAS BELOW TIRE BEAD AREAS SEVERELY GOUGED BY SHARP TOOL. WHEEL WAS REPLACED WITH NEW.								
5711	600AA	PIPER				SPAR CAP	CORRODED	4577	3/18/98
	2825102	PA28140					AFT SPAR CAP		98ZZZX1172
*****	DURING WING INSPECTION, FOUND EVERY WHERE THAT SOUNDPROOF INSULATION COMES IN CONTACT WITH THE FERROUS AFT SPAR CAP, THAT CORROSION SETS IN DUE TO THE MOISTURE THAT THE INSULATION HOLDS.								
7820	2558M	PIPER				MUFFLER	FAILED	3592	2/23/98
MOGR	287890256	PA28181				6751700	ENGINE		98ZZZX1105
	DURING ANNUAL INSPECTION, ENGINE FOUND RUNNING RICH AND WOULD NOT DEVELOP FULL POWER. TROUBLESHOOTING REVEALED MUFFLER TAILPIPE 50 PERCENT BLOCKED BY FAILED BLAST TUBE. MUFFLER WAS REMOVED,								
2140	63ND	PIPER				HEATER	FAILED	362	3/5/98
	317852098	PA31350				B405065D722	FORWARD		98ZZZX1123
*****	DURING FLIGHT, THE COCKPIT FILLED WITH A GREENISH, YELLOW SMOKE EMANATING FROM THE DEFROST AND HEATER DUCTS. PILOT SHUT DOWN THE FORWARD HEATER AND EVACUATED THE SMOKE FROM THE CABIN. THE FLIGHT CONTINUED TO THE ORIGINAL DESTINATION. THE AIRCRAFT WAS INSPECTED AND FOUND UNDAMAGED. THE FORWARD HEATER HAD OVERHEATED. WITHOUT FURTHER INSPECTION OF THE HEATERS, THE DAMAGE AND SYMPTOMS ARE CONSISTENT WITH A PERFORATED BURNER CAN. THIS COMBUSTION HEATER HAD A PRESSURE DECAY TEST IAW AD 96-20-07 ON 1-18-98, AND HAD ACCUMULATED 62.4 HEATER HOURS OF OPERATION SINCE THAT DATE.								
6120	112AG	PIPER				BRACKET	FAILED	11740	2/12/98
	31698	PA31310				4090500	PROPELLER CABLE		98ZZZX1177
	UPON TRYING TO REDUCE TO CLIMB POWER, THE RIGHT PROP CONTROL WAS STIFF WHEN MORE PRESSURE APPLIED. THE CONTROL BROKE FREE, BUT THE RPM DID NOT CHANGE. FOUND PROP CABLE HOLD-DOWN BRACKET BROKEN AND CABLE STIFF. FREED UP CABLE AND REPLACED BRACKET. OPERATIONAL CHECK OK. SUGGEST STIFF CABLES BE REPORTED AND CORRECTED TO PRECLUDE BREAKING OF KEEPER WITH LOSS OF CONTROL EFFECTIVITY.								
2434	22382	PIPER			PRESTOLITE	ALTERNATOR	FAILED		2/24/98
ONFR	347870459	PA34200T				ALX9425B	BRUSH HOLDER		98ZZZX1126
	ALTERNATOR FAILED AFTER 2 MINUTES OF OPERATION. FOUND OPEN FIELD CIRCUIT. FOUND RED SILICONE SEALANT TYPE MATERIAL AROUND BRUSH HOLDER PREVENTING BRUSH SEATING ON SLIP RING. CAME FROM OVERHAUL THIS WAY.								

(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT)

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2312	10761	BELL				TRANSCEIVER	FAILED		3/18/98
HEEA	45381	206L1			RT13	4000102000	COCKPIT		HEEA0013374
	NO 5 VOLTS OUT OF POWER SUPPLY AND CHECK TONES FOR PROPER OPERATION.								
2562	513EH	BELL			NARCO	ELT	DEFECTIVE		3/4/98
HEEA	45421	206L1				ELT910	COCKPIT		HEEA0013272
	NARCO ELT BATTERY WEAK.								
2810	22751	BELL				FUEL CELL	CRACKED		3/18/98
HEEA	3627	206B3				206061661103	FUEL SYS		HEEA0013404
	EXCESSIVE CRACKS ON SEAMS AND SEEPAGE THROUGH FABRIC.								
3213	701MP	BELL				SADDLE	FAILED	5	2/20/98
	7221270	OH58A			058321300	601051001	HI SKID GEAR		98ZZZX1146
	WHILE GROUND HANDLING HELICOPTER, SKID EAR BROKE OFF. EAR MIGHT BE HARDENED TOO MUCH CAUSING IT TO BE BRITTLE.								
3416	3207Q	BELL				ALT ENCODER	FAILED		3/18/98
HEEA	51540	206L3				A30	COCKPIT		HEEA0013386
	ENCODER HAS NO VALID OUTPUT.								
3421	42EA	BELL				ATTITUDE GYRO	FAILED		3/18/98
HEEA	51542	206L3				206075607103	COCKPIT		HEEA0013395
	ATTITUDE GYRO PRECESSES AND WILL NOT CAGE.								
3424	2251Z	BELL				INDICATOR	FAILED		3/18/98
HEEA	45756	206L1				A593002	COCKPIT T&B		HEEA0013396
	T&B INDICATOR IS NOT WORKING.								
3424	6251V	BELL				INDICATOR	FAILED		3/18/98
HEEA	51404	206L3				206070274005	COCKPIT T&B		HEEA0013397
	INDICATOR "DEAD" IS INOPERATIVE AND NEEDS LIGHT.								
3453	513EH	BELL				ANTENNA	FAILED		3/18/98
HEEA	45421	206L1			KA83	071143100	LORAN		HEEA0013372
	LORAN HAS NO SIGNAL WITH THIS ANTENNA. BAD FROM STOCK.								
6710	31801	BELL				ACTUATOR	FAILED		3/18/98
HEEA	51074	206L3				206062721109	M/R		HEEA0013407
	BEEP RANGE WILL NOT STAY AT MAX. OR MIN. POSITION.								
3442	102PH	BELL				INDICATOR	FAILED		3/18/98
HEEA	30899	212			P40001	MI5852013	COCKPIT		HEEA0013361
	THE CONTRAST IS NOT BRIGHT ENOUGH TO READ THE SCREEN. THERE IS ONLY ONE COLOR. VERIFIED, FOUND INTENSITY KNOB TURNED DOWN, ALSO FOUND YELLOW DISPLAY PROBLEM ON MEMORY BOARD. REPLACED IC15, U1011, U1017, U1015, U1014, U1008, U1009. REPAIRED. BENCH CHECK GOOD.								
2432	8045T	BELL				CHARGER	FAILED		3/18/98
HEEA	28101	214ST				214175379103	BATTERY		HEEA0013401
	CHARGER INOPERATIVE. BATTERY NEVER SHOWS TOP CHARGE.								

******* DENOTES SIGNIFICANT OCCURRENCE**

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2432	6957Y	BELL				CHARGER	FAILED		3/18/98
HEEA	28139	214ST				214175379103	BATTERY		HEEA0013400
	CHARGER WON'T CHARGE BATTERY.								
2436	3897N	BELL				REGULATOR	FAILED		3/18/98
HEEA	28106	214ST				214175153105	GEN VOLTAGE		HEEA0013389
	NO GENERATOR OUTPUT. VOLTAGE REG FAILED.								
2810	59806	BELL				FUEL CELL	LEAKING		3/18/98
HEEA	28140	214ST				214066255103	SEAMS		HEEA0013379
	FUEL CELL LEAKING. DETERIORATED SEAMS.								
2932	6957Y	BELL				PRESSURE SWITCH	FAILED		3/18/98
HEEA	28139	214ST				205076044009	HYD SYS		HEEA0013402
	PRESSURE SWITCH FAILED								
6330	3897N	BELL				BEARING	SEPARATED		3/18/98
HEEA	28106	214ST				214031615105	CLEVIS ARM ASSY		HEEA0013380
	ELASTOMER BEARING SEPARATED.								
7714	59806	BELL				PANEL ASY	FAILED		3/18/98
HEEA	28140	214ST				214175428101	ENGINE GAUGE		HEEA0013409
	ENGINE RPM WORKS INTERMITTENTLY.								
6300	230UN	BELL				BEARING	WORN		3/18/98
HEEA	23009	230			230030535101	230330509101	M/R DRIVE		HEEA0013368
	BEARINGS WORN. REPLACED WITH SERVICEABLE PART.								
6300	230UN	BELL				BEARING	WORN		3/18/98
HEEA	23009	230			222331618105	222330619101	M/R DRIVE		HEEA0013369
	BEARINGS WORN. REPLACED WITH SERVICEABLE PART.								
6300	230UN	BELL				BUSHING	DAMAGED		3/18/98
HEEA	23009	230			222010509105	20012403528	M/R DRIVE		HEEA0013370
	BUSHING DAMAGED. REPLACED WITH SERVICEABLE PART.								
6400	230UN	BELL				BEARING	DAMAGED		3/18/98
HEEA	23009	230				222312712001	T/R		HEEA0013363
	BEARING WORN AND DAMAGED. REPLACED WITH SERVICEABLE PART.								
6400	230UN	BELL				BEARING	WORN		3/18/98
HEEA	23009	230			222012711107	222312751001	T/R CNTR WT		HEEA0013364
	BEARINGS WORN. REPLACED WITH SERVICEABLE PART.								
6700	230UN	BELL				BEARING	ROUGH		3/18/98
HEEA	23009	230			222001383101	MS276475	FLT CONTROL		HEEA0013371
	BEARING ROUGH. REPLACED WITH SERVICEABLE PART.								

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6710	230UN	BELL				BEARING	WORN		3/18/98
HEEA	23009	230			222382001105	212010782101	M/R CONTROL		HEEA0013367
	BEARINGS WORN. REPLACED WITH SERVICEABLE PART.								
6710	230UN	BELL				BEARING	WORN		3/18/98
HEEA	23009	230			222382001105	212010782101	M/R CONTROL		HEEA0013365
	BEARINGS WORN. REPLACED WITH SERVICEABLE PART.								
6710	230UN	BELL				BEARING	WORN		3/18/98
HEEA	23009	230			222382001105	212010782101	M/R CONTROL		HEEA0013366
	BEARINGS WORN. REPLACED WITH SERVICEABLE PART.								
2435	403PH	BELL				STARTER	FAILED	527	3/17/98
HEEA	53177	407				206062200113	ENG START/GEN		HEEA0013350
	STARTER TURNED SLOWLY AND CHATTERED. INSPECTED BY ACCESSORY OVERHAUL SHOP AND FOUND ALL FOUR BOTTOM BRUSHES BROKEN AND LEADS SEPARATED FROM BRUSHES AND COMMUTATOR WAS EXCESSIVELY PITTED. OVERHAULED STARTER GENERATOR AND RETURNED TO SERVICE.								
3310	510PH	BELL				LIGHT ASSY	FAILED		3/17/98
HEEA	53209	407				900044	COCKPIT		HEEA0013356
	LIGHT STAYS ON.								
6320	467PH	BELL				INDICATOR	FAILED	177	3/18/98
HEEA	53142	407				407375005101	XMSN OIL		HEEA0013410
	NO PRESSURE INDICATION POWER. XMSN OIL TEMP/PRESS								
6320	510PH	BELL				PRESSURE SWITCH	FAILED	77	3/17/98
HEEA	53209	407				214040806003	TRANSMISSION		HEEA0013358
	TRANS. PRESS CAUTION LIGHT WILL NOT ILLUMINATE.								
2120	3893P	BELL				SERVO	FAILED		3/18/98
HEEA	33012	412				212073927003	AIR DIST		HEEA0013375
	SERVO CONTROLLER MOTORS RUNS CONSTANTLY.								
2841	2298Z	BELL				INDICATOR	FAILED		3/18/98
HEEA	33077	412				393008047	FUEL QTY		HEEA0013362
	GAUGE DROPS TO ZERO OR DOWN 1000 POUNDS FROM TIME TO TIME. REPLACED WITH SERVICEABLE PART.								
2841	23023	BELL				SWITCH	FAILED		3/18/98
HEEA	33080	412				384178103	FUEL SYS		HEEA0013383
	CAPACITANCE OUT OF TOLERANCE.								
2842	3893P	BELL				PROBE	FAILED		3/18/98
HEEA	33012	412				391046199	FUEL QTY		HEEA0013381
	PROBE WILL NOT TEST.								
2842	2261D	BELL				TRANSMITTER	FAILED		3/18/98
HEEA	33076	412				2003600000102	FUEL QTY		HEEA0013387
	WILL NOT TRANSMIT SIGNAL								

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2842	23023	BELL				PROBE	FAILED		3/18/98
HEEA	33080	412				391046200	FUEL QTY		HEEA0013382
	PROBE CAUSES INDICATOR TO RISE 200 LBS.								
3424	3893L	BELL				RATE GYRO	ERRATIC		3/18/98
HEEA	33006	412				214075244001	COCKPIT		HEEA0013392
	RATE GYRO ERRATIC INDICATION.								
3424	6559Z	BELL				RATE GYRO	FAILED		3/18/98
HEEA	36019	412				214075244001	COCKPIT		HEEA0013393
	RATE GYRO INOPERATIVE.								
3452	6559Z	BELL				CONTROL	FAILED		3/18/98
HEEA	36019	412				071119218	COCKPIT		HEEA0013373
	TRANSPONDER DOES NOT TEST PROPERLY AND NO LIGHTS TO SHOW MODE IT IS IN.								
6710	5759N	BELL				ACTUATOR ROTARY	BINDING		3/18/98
HEEA	33002	412				214001347005	M/R		HEEA0013398
	ROTARY ACTUATOR BINDING.								
6710	3893P	BELL				ACTUATOR ROTARY	FAILED		3/18/98
HEEA	33012	412				214001347005	M/R		HEEA0013388
	MAG BRAKE INTERMITTENT -- AUTO TRIM NOT WORKING.								
6710	7128R	BELL				ACTUATOR ROTARY	FAILED		3/18/98
HEEA	36007	412				214001347005	CYCLIC		HEEA0013376
	SYSTEM CYLIC WOULD NOT MOVE WHEN BEEPED.								
7210	2014K	BELL	PWA			COMBINING GRBOX	MAKING METAL	4357	3/18/98
HEEA	33020	412	PT6T3B			3024780	ENGINE		HEEA0013377
	COMBINING GEAR BOX MAKING METAL.								
7714	2261D	BELL				INDICATOR	STICKING		3/18/98
HEEA	33076	412				212075037101	ENGINE N1		HEEA0013403
	INDICATOR IS STICKING.								
7722	2261D	BELL				INDICATOR	FAILED		3/18/98
HEEA	33076	412				212075067109	ENG ITT		HEEA0013391
	WILL NOT INDICATE.								
7722	2261D	BELL				INDICATOR	FAILED		3/18/98
HEEA	33076	412				212075067105	ENG ITT		HEEA0013390
	WILL NOT INDICATE.								
7722	23023	BELL				TRIM COMPENSATOR	FAILED		3/18/98
HEEA	33080	412				3030083	ENG TRIM		HEEA0013394
	READS 80 DEGREES TOO HIGH. ENGINE TRIM COMPENSATOR FAILED.								

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2612	CFHFW	BOEING			KIDDE	FIRE DETECTOR	MALFUNCTIONED	679	3/22/98
CHIR	107	1072				61423473275	NR 2 AFT UPPER		CHI2069
	DETECTOR FAILED, CAUSED NR 2 FIRE LIGHT TO FALSELY ILLUMINATE. DETECTOR SENT TO MFG FOR EVALUATION. THIS DETECTOR IS PART OF STC SR00375SE. (X)								
3416	967MB	BOLKMS				ALT ENCODER	FAILED		3/18/98
HEEA	S737	BO105S				A30	COCKPIT		HEEA0013385
	ALT ENCODER HAS NO VALID OUTPUT.								
7714	5421E	BOLKMS				TACH-GENERATOR	MALFUNCTION		3/17/98
HEEA	S806	BO105S				32005008	ENGINE		HEEA0013351
	FROM STOCK, INSTALLED IN AIRCRAFT DURING GROUND RUN, HAD NO NEEDLE INDICATION ON TRIPLE TACH INDICATOR. INSPECTED AND TESTED BY ACCESSORY OVERHAUL SHOP AND COULD NOT FIND ANY PROBLEM WITH TACH GENERATOR, IT TESTED OK AND WAS RETURNED TO SERVICE.								
7931	911EB	BOLKMS				INDICATOR	FAILED		3/18/98
HEEA	S812	BO105S				4011001	NR 2 ENG OIL		HEEA0013384
	NR2 ENGINE OIL PRESSURE HIGH AT 100%.								
7230	158BK	BOLKMS	LYC			SEAL	LEAKING		7/28/97
R7MA	7058	BK117A3	LTS101650B1			430404701	LT ENGINE NR 1		98ZZZX1149
	LEFT ENGINE NR 1 BEARING LEAKING BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7230	127HH	BOLKMS	LYC			SEAL	LEAKING	709	12/9/97
R7MA	7060	BK117A3	LTS101650B1			430150601	RT ENG NR 2		98ZZZX1148
	RIGHT ENGINE NR 2 BEARING LEAKING BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7230	424MB	BOLKMS	LYC			SEAL	LEAKED		7/24/97
R7MA	7082	BK117A3	LTS101650B1			430150601	LT ENG NR 2		98ZZZX1151
	LEFT ENGINE NR 2 BEARING SEAL, UPON INSTALLATION, UNIT LEAKED BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7230	911BY	BOLKMS	LYC			BEARING	PITTED	860	1/9/96
R7MA	7127	BK117A4	LTS101650B1			430124203	ENGINE COMPR		98ZZZX1160
	COMPRESSOR BEARING HAS EXCESSIVE PITTING. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7230	911BY	BOLKMS	LYC			SEAL	LEAKING	763	1/9/96
R7MA	7127	BK117A4	LTS101650B1			430150601	RT ENG NR 2		98ZZZX1158
	RIGHT ENGINE NR 2 BEARING SEAL LEAKING BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM. ACTUAL P/N INSTALLED, 4-141-45-02, SN 390.								
7230	586BH	BOLKMS	LYC			SEAL	LEAKING	378	11/18/97
R7MA	7129	BK117A4	LTS101650B1			430150601	LT ENG NR 2		98ZZZX1156
	LEFT ENGINE NR 2 BEARING LEAKING BEYOND SERVICEABLE LIMITS. ACTUAL PART NUMBER INSTALLED, 4-301-357-03. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7230	586BH	BOLKMS	LYC			BEARING	WORN	378	11/18/97
R7MA	7129	BK117A4	LTS101650B1			430151801	LT ENGINE NR 2		98ZZZX1155
	LEFT ENGINE NR 2 BEARING HAS EXCESSIVE ROLLER WEAR. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7250	158BK	BOLKMS	LYC			SEAL	LEAKING	260	7/28/97
R7MA	7058	BK117A3	LTS101650B1			430144801	LT ENG NR 3		98ZZZX1150
	LEFT ENGINE NR 3 BEARING LEAKING BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7250	911BY	BOLKMS	LYC			SEAL	LEAKING	763	1/9/96
R7MA	7127	BK117A4	LTS101650B1			430144801	RT ENGINE NR 3		98ZZZX1159
	RIGHT ENGINE NR 5 BEARING SEAL LEAKING BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7250	586BH	BOLKMS	LYC			BEARING	PITTED	378	11/18/97
R7MA	7129	BK117A4	LTS101650B1			414144001	ENGINE NR 1		98ZZZX1157
	LEFT ENGINE BEARING HAS EXCESSIVE PITTING. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7250	586BH	BOLKMS	LYC			ROTOR ASSY	SHIFT	756	8/22/97
R7MA	7129	BK117A4	LTS101650B1			414129001	PT BLADE		98ZZZX1153
	ENGINE FAILED SB LT101-72-10-0153. EXCESSIVE IBPT BLADE SHIFT Q-ROTOR = 6.77 GMIN2. REPLACED WITH NEW UNIT, CORRECTED PROBLEM. PART TC: 3,128.1.								
7250	586BH	BOLKMS	LYC			BEARING	PITTED	756	8/22/97
R7MA	7129	BK117A4	LTS101650B1			430102301	RT ENGINE		98ZZZX1152
	RIGHT ENGINE BEARING HAS EXCESSIVE PITTING. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7712	586BH	BOLKMS				SHAFT	GROOVED	756	8/22/97
R7MA	7129	BK117A4				408104917	TORQUEMETER		98ZZZX1154
	TORQUE METER SHAFT UNIT EXCESSIVELY GROOVED. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
6310	5695B	ENSTRM				STRUT BEARING	CRACKED	18	2/19/98
FSPA	1204	280C				ECD01413	M/R DRIVE		98ZZZX1111
	CAGE OF UPPER JACK STRUT BEARING WAS FOUND BROKEN DURING ANNUAL INSPECTION WHILE GREASING BEARING. THIS WAS THE SECOND BEARING FOUND IN THIS CONDITION. IT SHOULD BE NOTED THIS BEARING HAS A 600-HOUR LIFE LIMIT AND A 100-HOUR LUBE SCHEDULE. SUBMITTER STATED THIS BEARING WAS ORIGINALLY INTENDED TO BE HAND-PACKED.								
7322	550JM	HUGHES	ALLSN		BENDIX	FUEL CONTROL	MALFUNCTIONED		2/23/98
	0013E	369E	250C20B		23057344	252464429	ENGINE		98ZZZX1147
	ENGINE STILL HAVING DELAYED STARTS. ENGINE FLAMED OUT AT IDLE. RESTARTED WITH THE START PUMP ON, AND FLAMED OUT DURING THE START SEQUENCE. RESTARTED AGAIN, MADE IT TO IDLE, BUT FLAMED OUT AGAIN. REMOVED THE FUEL CONTROL AND INSTALLED A DASH 28 UNIT. NO FURTHER PROBLEMS. TIME ON FUEL CONTROL SN 310785 WAS 1237.5 HOURS TSO, AND 31.6 HOURS SINCE REPAIR.								
7323	50AP	HUGHES	ALLSN		BENDIX	FLYWEIGHT BUSH	WORN		2/10/98
JP0M	1090585D	369D	250C20B		23057870	2539034	N2 GOVERNOR	1052	98ZZZX1026
	PILOT EXPERIENCED DROOP OF N2 RPM (ROTOR) TO 100 PERCENT. BEEFED UP TO 102 PERCENT, THEN N2 RPM WENT UP TO 104 PERCENT. ERRATIC OPERATION NOTICED. RETURNED GOVERNOR TO REPAIR STATION FOR REPAIR AND REINSTALLED. PROBLEM CORRECTED.								
6710	159RP	ROBSIN				SPRING ASSY	FAILED	199	3/12/98
	0342	R44			C5811	C0561	LATERAL TRIM		98ZZZX1164
*****	WHILE PERFORMING INSPECTION FOR AD 98-06-12, FOUND LATERAL TRIM SPRING ASSY PULLED COMPLETELY OUT OF MOUNTING BLOCK AND DANGLING AGAINST BELLY SKIN. TRIM MOTOR ARM P/N C581-1 FROZEN ON SPRING SHAFT. SUBMITTER STATED HAD THIS UNIT FAILED IN-FLIGHT, LOSS OF CONTROL WOULD HAVE BEEN POSSIBLE. THE REPLACEMENT SPRING ASSY LOWER BEARING IS STAKED INTO THE MOUNTING BLOCK, YET THIS IS NOT THE CAUSE OF THE AD. SUBMITTER RECOMMENDED REVISION OF AD 98-04-12 TO REQUIRE IMMEDIATE REPLACEMENT OF AFFECTED SPRING ASSY REGARDLESS OF SHAFT WEAR.								
6710	972SA	ROBSIN				SHAFT	WORN	63	1/22/98
	0394	R44				C5851	CYCLIC CONTROL		98ZZZX1115
*****	ROTORCRAFT EXPERIENCED A PARTIAL CYCLIC CONTROL FAILURE WHILE LANDING. PILOT WAS UNABLE TO ROLL LEFT USING CYCLIC INPUT. INVESTIGATION REVEALED THAT LATERAL TRIM ACTUATOR ASSEMBLY SHAFT, PN C585-1, HAD A STEP WORN IN IT WHICH ALLOWED THE TRIM ACTUATOR TO JAM. THREE ADDITIONAL AIRCRAFT INSPECTED REVEALED THE SAME PROBLEM. LATERAL TRIM ACTUATOR ASSEMBLY WAS REPLACED ON ALL 4 AIRCRAFT. SAFETY RECOMMENDATIONS SUBMITTED. AD 98-04-12 ISSUED TO INSPECT AND CORRECT THIS PROBLEM ON ALL R44 HELICOPTERS.								

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2913	476X	SKRSKY			ABEX	PUMP	FAILED	2387	3/5/98
HEEA	760436	S76C				7665009808102	NR 1 HYD		98ZZZX1163
	LOST NR 1 HYDRAULIC SYSTEM PRESSURE IN-FLIGHT. LANDED ON OFFSHORE PLATFORM WITHOUT INCIDENT. MAINTENANCE FOUND HYDRAULIC PUMP FAILURE (INTERNAL METAL CONTAMINATION). REF: S-76 IPC, CHAPTER 29-20-01, FIG 1, ITEM 11.								
7810	5128	SKRSKY				EJECTOR	CRACKED		3/18/98
HEEA	760181	S76A				7630507003044	EXHAUST		HEEA0013378
	EXH EJECTOR CRACKED.								
3120	4055L	SNIAS				RELAY	FAILED		2/15/98
	2916	AS350B2				V23154C0721GB104	HOBBS METER		98ZZZX1116
	DISCREPANCY IN THE HOUR METER. TIME WAS LESS THAN ACTUAL FLIGHT TIME. T/S OF THE METER REVEALED THERE WAS NO POWER AVAILABLE TO HOBBS METER. DISCOVERED THE RELAY WAS HALF FILLED WITH WATER AND THE PINS IN THE SOCKET HAD RUSTED OFF. UPON EVALUATING THE FAILURE NOTED THE RELAYS ARE NOT SEALED, AND EACH RELAY IS INSERTED IN A SOCKET WHICH CONTRIBUTES TO POOR CONTACT AND THE POTENTIAL FOR CORROSION. THE LOCATION OF THE RELAYS IS SUCH THAT THE AIR CONDITIONING CONDENSATION WILL AMOST CERTAINLY DRIP ON THE RELAYS. SOLUTION WOULD BE TO INSTALL HERMETICALLY SEALED RELAYS J2K-4730-107P OR EQUIVALENT AND MOUNT THEM TO THE PANEL NEXT TO THE HOUR METER.								
3340	60951	SNIAS				POWER SUPPLY	FAILED	247	3/17/98
HEEA	2771	AS350B				356H2802	STROBE		HEEA0013354
	STROBE POWER SUPPLY INOPERATIVE.								
3340	6097Z	SNIAS				POWER SUPPLY	FAILED		3/17/98
HEEA	2820	AS350B2				A490ATSDF1428	STROBE		HEEA0013353
	WILL NOT FIRE ANTI-COLLISION LIGHT.								
6210	6097Z	SNIAS				BLADE	CRACKED	3611	3/17/98
HEEA	2820	AS350B2				355A11002012	M/R		HEEA0013357
	M/R BLADE CRACKED.								
6330	60951	SNIAS				BEARING	DAMAGED		3/17/98
HEEA	2771	AS350B				704A33633151	TRANSMISSION		HEEA0013352
	TRANSMISSION BEARING OIL SOAKED.								
6330	6097Z	SNIAS				SPHERICAL STOP	WORN	1814	3/17/98
HEEA	2820	AS350B2				704A3363310951	TRANSMISSION		HEEA0013355
	SPHERICAL STOP ASSY WORN. SERIAL NUMBERS REMOVED ARE 10952, 10948, AND 10956.								
6410	60951	SNIAS				BEARING	SEPARATED	1233	3/17/98
HEEA	2771	AS350B			355A12004005	704A33633091	T/R BLADE		HEEA0013359
	LAMINATED BEARINGS SEPARATED.								
6410	4031L	SNIAS				BLADES	DAMAGED	509	3/18/98
HEEA	2907	AS350B2				355A12004008	T/R		HEEA0013406
	DAMAGE ON T/R BLADES LEADING EDGE NEAR ROOT IN AREA (F).								

(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS)

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - ENGINES

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7210	2014K	BELL	PWA			COMBINING GRBOX	MAKING METAL	4357	3/18/98
HEEA	33020	412	PT6T3B			3024780	ENGINE		HEEA0013377
	COMBINING GEAR BOX MAKING METAL.								
7230	158BK	BOLKMS	LYC			SEAL	LEAKING		7/28/97
R7MA	7058	BK117A3	LTS101650B1			430404701	LT ENGINE NR 1		98ZZZX1149
	LEFT ENGINE NR 1 BEARING LEAKING BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7230	127HH	BOLKMS	LYC			SEAL	LEAKING	709	12/9/97
R7MA	7060	BK117A3	LTS101650B1			430150601	RT ENG NR 2		98ZZZX1148
	RIGHT ENGINE NR 2 BEARING LEAKING BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7230	424MB	BOLKMS	LYC			SEAL	LEAKED		7/24/97
R7MA	7082	BK117A3	LTS101650B1			430150601	LT ENG NR 2		98ZZZX1151
	LEFT ENGINE NR 2 BEARING SEAL, UPON INSTALLATION, UNIT LEAKED BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7230	911BY	BOLKMS	LYC			BEARING	PITTED	860	1/9/96
R7MA	7127	BK117A4	LTS101650B1			430124203	ENGINE COMPR		98ZZZX1160
	COMPRESSOR BEARING HAS EXCESSIVE PITTING. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7230	911BY	BOLKMS	LYC			SEAL	LEAKING	763	1/9/96
R7MA	7127	BK117A4	LTS101650B1			430150601	RT ENG NR 2		98ZZZX1158
	RIGHT ENGINE NR 2 BEARING SEAL LEAKING BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM. ACTUAL P/N INSTALLED, 4-141-45-02, SN 390.								
7230	586BH	BOLKMS	LYC			SEAL	LEAKING	378	11/18/97
R7MA	7129	BK117A4	LTS101650B1			430150601	LT ENG NR 2		98ZZZX1156
	LEFT ENGINE NR 2 BEARING LEAKING BEYOND SERVICEABLE LIMITS. ACTUAL PART NUMBER INSTALLED, 4-301-357-03. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7230	586BH	BOLKMS	LYC			BEARING	WORN	378	11/18/97
R7MA	7129	BK117A4	LTS101650B1			430151801	LT ENGINE NR 2		98ZZZX1155
	LEFT ENGINE NR 2 BEARING HAS EXCESSIVE ROLLER WEAR. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7250	158BK	BOLKMS	LYC			SEAL	LEAKING	260	7/28/97
R7MA	7058	BK117A3	LTS101650B1			430144801	LT ENG NR 3		98ZZZX1150
	LEFT ENGINE NR 3 BEARING LEAKING BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7250	911BY	BOLKMS	LYC			SEAL	LEAKING	763	1/9/96
R7MA	7127	BK117A4	LTS101650B1			430144801	RT ENGINE NR 3		98ZZZX1159
	RIGHT ENGINE NR 5 BEARING SEAL LEAKING BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7250	586BH	BOLKMS	LYC			BEARING	PITTED	378	11/18/97
R7MA	7129	BK117A4	LTS101650B1			414144001	ENGINE NR 1		98ZZZX1157
	LEFT ENGINE BEARING HAS EXCESSIVE PITTING. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7250	586BH	BOLKMS	LYC			ROTOR ASSY	SHIFT	756	8/22/97
R7MA	7129	BK117A4	LTS101650B1			414129001	PT BLADE		98ZZZX1153
	ENGINE FAILED SB LT101-72-10-0153. EXCESSIVE IBPT BLADE SHIFT Q-ROTOR = 6.77 GMIN2. REPLACED WITH NEW UNIT, CORRECTED PROBLEM. PART TC: 3,128.1.								

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7250	586BH	BOLKMS	LYC			BEARING	PITTED	756	8/22/97
R7MA	7129	BK117A4	LTS101650B1			430102301	RT ENGINE		98ZZZX1152
	RIGHT ENGINE BEARING HAS EXCESSIVE PITTING. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.								
7314	736XB	CESSNA	CONT			FUEL PUMP	DEFECTIVE	2000	3/1/98
	R1722860	R172K	IO360K			6467592	STOP PIN		98ZZZX1176
	IN-FLIGHT MIXTURE CONTROL WOULD STICK AND WOULD NOT GO BACK TO FULL RICH MIXTURE. PREVIOUSLY, MOISTURE STIFF BUT WOULD MOVE, AND INSPECTION FOUND NO PROBLEMS. AFTER LAST 'STICK', INSPECTION FOUND THAT IDLE CUT-OFF STOP PIN WAS LOOSE IN ITS HOLE AND FREE TO MOVE IN AND OUT OF ITS HOLE FAR ENOUGH TO BLOCK MIXTURE LEVER. REPLACED PUMP WITH NEW PART.								
8530	99295	CESSNA	LYC			CYLINDER	FAILED	1620	12/13/97
	17276429	172P	O320D2J				NR 1		98ZZZX1127
	FOLLOWING 45 MINUTES OF FLIGHT, ENGINE BECAME ROUGH. CARBURETOR HEAT APPLIED, BUT ROUGHNESS THE SAME. APPLIED FULL POWER AND RETURNED AND ON SHORT FINAL, TOWER REPORTED HEAVY SMOKE. INSPECTION FOUND ENGINE HAD ONLY 3 QUARTS OF OIL LEFT. NR 1 CYLINDER PISTON NICKED AND HEAD CRACKED.								
7420	974SG	CESSNA	LYC		SLICK	HARNESS	DAMAGED	35	3/2/98
	18280083	182S	IO540*				ENGINE IGNITION		98ZZZX1104
	DURING TROUBLESHOOTING, ROUGH MAG DROP DISCOVERED DURING RUN-UP. DISCOVERED NYLON TIE WRAPS HOLDING IGNITION HARNESS LEADS TOGETHER IN BUNDLES SO TIGHT THE LEADS WERE DISTORTED. IGNITION LEADS WERE DISCOVERED STRETCHED TIGHT BETWEEN ENGINE AND MOUNT. FAULT DISCOVERED TO BE WHERE A NYLON TIE WRAP HAD CHAFED THROUGH SHIELDING AND BROKEN INNER INSULATION OF ONE IGNITION LEAD ALLOWING LEAD TO SHORT DURING OPERATION. OTHER LEADS DISCOVERED DAMAGED. SUBMITTER FEELS SERIOUS PROBLEM EXISTS SINCE LEAD FAILED WITH EXTREME LOW TIME IN SERVICE.								
7324	3246M	CESSNA	CONT			LINE	FAILED		2/1/98
	402C0294	402C	TSIO520UB			5200106101	FLOW DIVIDER		98ZZZX1125
	FUEL REF LINE FROM FLOW DIVIDER TO BAFFLE BROKE CAUSING A ROUGH RUNNING ENGINE. AIRCRAFT LANDED WITHOUT INCIDENT.								
8550	39058	GULSTM	LYC			LINE	BLOCKED		2/12/98
	AA1C0206	AA1C	O235L2C			MILH6000	OIL BREATHER		98ZZZX1142
	ENGINE BEGAN LEAKING OIL AT CYLINDER THRU STUD LOCATIONS. AT SAME TIME, FUEL PRESSURE ROSE APPROX 2 POUNDS. FOUND BREATHER LINE MIL-H-6000, .75 INCH TUBE, BLOCKED APPROX 95 PERCENT. BLOCKAGE APPEARS TO BE DETERIORATED INNER HOSE MATERIAL. HOSE MFG'D IN 1973. ACFT MFG'D IN 1978. HOSE WAS OLD AT TIME OF INSTALLATION. SUBMITTER RECOMMENDED CHANGING ALL RUBBER HOSES EVERY 5 YEARS AND INSPECTING ID OF BREATHER HOSE AT ANNUAL. PRESS BUILD-UP IN THE CRANKCASE CAN CAUSE LOSS OF ENGINE PROPELLLER NOSE SEAL AND SUBSEQUENT LOSS OF ALL ENGINE OIL. HIGHER THAN NORMAL FUEL PRESSURE CAN CAUSE FLOODING OF CARBURATED ENGINE. POOR CRANKCASE BREATHING CAN ALSO CONTRIBUTE TO ACCELERATED CORROSION.								
7322	550JM	HUGHES	ALLSN		BENDIX	FUEL CONTROL	MALFUNCTIONED		2/23/98
	0013E	369E	250C20B		23057344	252464429	ENGINE		98ZZZX1147
	ENGINE STILL HAVING DELAYED STARTS. ENGINE FLAMED OUT AT IDLE. RESTARTED WITH THE START PUMP ON, AND FLAMED OUT DURING THE START SEQUENCE. RESTARTED AGAIN, MADE IT TO IDLE, BUT FLAMED OUT AGAIN. REMOVED THE FUEL CONTROL AND INSTALLED A DASH 28 UNIT. NO FURTHER PROBLEMS. TIME ON FUEL CONTROL SN 310785 WAS 1237.5 HOURS TSO, AND 31.6 HOURS SINCE REPAIR.								
7323	50AP	HUGHES	ALLSN		BENDIX	FLYWEIGHT BUSH	WORN		2/10/98
JP0M	1090585D	369D	250C20B		23057870	2539034	N2 GOVERNOR	1052	98ZZZX1026
	PILOT EXPERIENCED DROOP OF N2 RPM (ROTOR) TO 100 PERCENT. BEEFED UP TO 102 PERCENT, THEN N2 RPM WENT UP TO 104 PERCENT. ERRATIC OPERATION NOTICED. RETURNED GOVERNOR TO REPAIR STATION FOR REPAIR AND REINSTALLED. PROBLEM CORRECTED.								
8520	73N	PARTEN	LYC			STUD	FAILED		3/5/98
Q2AR	230	P68C	IO360A1B6			5015	NR 2 CYL BASE		98ZZZX1109
	DURING 100-HOUR INSPECTION, NR 2 CYLINDER BASE STUD FOUND BROKEN. SUBMITTER SUGGESTED POSSIBLY CAUSED BY ENGINE TOTAL TIME.								

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7314	37AT	PIPER	LYC			PUMP	LEAKING	17	3/10/98
ODAR	4636135	PA46350P	TIO540AE2A			RG9080J4A	ENGINE FUEL		98ZZZX1131

OWNER NOTICED FUEL STAIN ON BELLY OF NEW AIRCRAFT. AFTER INVESTIGATION, FOUND THAT ENGINE DRIVEN FUEL PUMP SEAL HAD EXTRUDED AND FUEL WAS LEAKING. LOG BOOKS INDICATED THE SCREWS HOLDING THE CAP AND SEAL IN PLACE HAD BEEN TORQUED IAW LYCOMING SB 529. ALL SCREWS WERE LYCOMING SAFTIED, BUT SCREWS WERE FOUND FINGER TIGHT. NEW FUEL PUMP WAS INSTALLED CORRECTING PROBLEM.

(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - ENGINES)

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2312	10761	BELL				TRANSCEIVER	FAILED		3/18/98
HEEA	45381	206L1			RT13	4000102000	COCKPIT		HEEA0013374
	NO 5 VOLTS OUT OF POWER SUPPLY AND CHECK TONES FOR PROPER OPERATION.								
2562	513EH	BELL			NARCO	ELT	DEFECTIVE		3/4/98
HEEA	45421	206L1				ELT910	COCKPIT		HEEA0013272
	NARCO ELT BATTERY WEAK.								
3416	3207Q	BELL				ALT ENCODER	FAILED		3/18/98
HEEA	51540	206L3				A30	COCKPIT		HEEA0013386
	ENCODER HAS NO VALID OUTPUT.								
3421	42EA	BELL				ATTITUDE GYRO	FAILED		3/18/98
HEEA	51542	206L3				206075607103	COCKPIT		HEEA0013395
	ATTITUDE GYRO PRECESSES AND WILL NOT CAGE.								
3424	2251Z	BELL				INDICATOR	FAILED		3/18/98
HEEA	45756	206L1				A593002	COCKPIT T&B		HEEA0013396
	T&B INDICATOR IS NOT WORKING.								
3424	6251V	BELL				INDICATOR	FAILED		3/18/98
HEEA	51404	206L3				206070274005	COCKPIT T&B		HEEA0013397
	INDICATOR "DEAD" IS INOPERATIVE AND NEEDS LIGHT.								
3453	513EH	BELL				ANTENNA	FAILED		3/18/98
HEEA	45421	206L1			KA83	071143100	LORAN		HEEA0013372
	LORAN HAS NO SIGNAL WITH THIS ANTENNA. BAD FROM STOCK.								
3442	102PH	BELL				INDICATOR	FAILED		3/18/98
HEEA	30899	212			P40001	MI5852013	COCKPIT		HEEA0013361
	THE CONTRAST IS NOT BRIGHT ENOUGH TO READ THE SCREEN. THERE IS ONLY ONE COLOR. VERIFIED, FOUND INTENSITY KNOB TURNED DOWN, ALSO FOUND YELLOW DISPLAY PROBLEM ON MEMORY BOARD. REPLACED IC15, U1011, U1017, U1015, U1014, U1008, U1009. REPAIRED. BENCH CHECK GOOD.								
3424	3893L	BELL				RATE GYRO	ERRATIC		3/18/98
HEEA	33006	412				214075244001	COCKPIT		HEEA0013392
	RATE GYRO ERRATIC INDICATION.								
3424	6559Z	BELL				RATE GYRO	FAILED		3/18/98
HEEA	36019	412				214075244001	COCKPIT		HEEA0013393
	RATE GYRO INOPERATIVE.								
3452	6559Z	BELL				CONTROL	FAILED		3/18/98
HEEA	36019	412				071119218	COCKPIT		HEEA0013373
	TRANSPONDER DOES NOT TEST PROPERLY AND NO LIGHTS TO SHOW MODE IT IS IN.								
3416	967MB	BOLKMS				ALT ENCODER	FAILED		3/18/98
HEEA	S737	BO105S				A30	COCKPIT		HEEA0013385
	ALT ENCODER HAS NO VALID OUTPUT.								

******* DENOTES SIGNIFICANT OCCURRENCE**

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2562	5532H	PIPER				ELT	FAILED		12/31/97
	111035	PA11				EBC102A	COCKPIT		98ZZZX1179
	THE ELT DID NOT ACTIVATE ON IMPACT. IT DID TEST USING AN AM RADIO AFTER TURNING ON MANUALLY. THE DATE ON THE BATTERY WAS DUE DECEMBER, 1993.								
6113	22JL	PIPER		HARTZL		BULKHEAD	CRACKED		3/18/98
WIWR	347250198	PA34200		HCC2YK2		453978	PROPELLER		98ZZZX1180
	AFTER FAILURE OF PROPELLER SPINNER BULKHEAD ON SIMILAR MODEL AIRCRAFT, CLOSE INPSECTION COMPLETED WITH DYE PENETRANT, FOUND CRACKS PROGRESSING FROM PROP SPINNER BULKHEAD MOUNTING BOLT HOLES. SUSPECT REASON FOR PREMATURE FAILURE IS WRONG LENGTH OF SCREW USED ON SPINNER. IF NEXT SIZE LONGER SCREW IS USED OTHER THAN CALLED FOR, IT WILL RESULT IN PRELOADING SPINNER BULKHEAD TO ENGINE DAMPENER DYNAMIC BALANCER) WHERE IT BOTTOMS OUT. RECOMMEND INSPECTING FOR CORRECT LENGTH OF SCREWS AND USING EITHER MAGNIFYING GLASS OR DYE PENETRANT FOR INSPECTION. CRACKS WERE FOUND ON BOTH RIGHT AND LEFT PROPS.								
3120	4055L	SNIAS				RELAY	FAILED		2/15/98
	2916	AS350B2				V23154C0721GB104	HOBBS METER		98ZZZX1116
	DISCREPANCY IN THE HOUR METER. TIME WAS LESS THAN ACTUAL FLIGHT TIME. T/S OF THE METER REVEALED THERE WAS NO POWER AVAILABLE TO HOBBS METER. DISCOVERED THE RELAY WAS HALF FILLED WITH WATER AND THE PINS IN THE SOCKET HAD RUSTED OFF. UPON EVALUATING THE FAILURE NOTED THE RELAYS ARE NOT SEALED, AND EACH RELAY IS INSERTED IN A SOCKET WHICH CONTRIBUTES TO POOR CONTACT AND THE POTENTIAL FOR CORROSION. THE LOCATION OF THE RELAYS IS SUCH THAT THE AIR CONDITIONING CONDENSATION WILL AMOST CERTAINLY DRIP ON THE RELAYS. SOLUTION WOULD BE TO INSTALL HERMETICALLY SEALED RELAYS J2K-4730-107P OR EQUIVALENT AND MOUNT THEM TO THE PANEL NEXT TO THE HOUR METER.								

(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS)

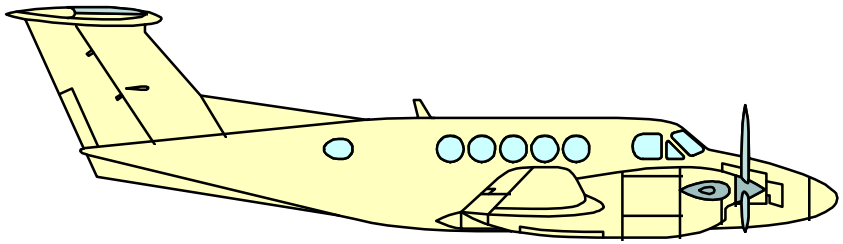
DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
6114	6624C	CESSNA		MCAULY		HUB	CRACKED		2/27/98
	414A0034	414A		3AF32C93		C93	NR 2 SOCKET		98ZZZX1130
	AFTER TEAR-DOWN, A CRACK WAS FOUND IN NR 2 BLADE SOCKET ON THE ENGINE SIDE.								

(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS)

INTERNATIONAL

SERVICE DIFFICULTY REPORT



INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
3210		AMTRMX	AMTR			LANDING GEAR	DAMAGED		1/20/98
		XP503	582				MAIN LANDING GEA		AU980098
	(AUS) AIRCRAFT HIT FENCE WHEN CONTROL LOST DURING LANDING. DAMAGE CAUSED TO LANDING GEAR, NOSE POD AND LOWER FUEL TANK. THIS DEFECT WAS RECEIVED FROM THE AUF AND IS FOR INFORMATION ONLY.								
5730		BEECH	CONT	MCAULY	BEECH	COVER	SEPARATED		1/19/98
		58	IO520C	3AF34C502	585301565	58530158	WING SPAR		AU980061
	(AUS) LH SPAR COVER SEPARATED AND JAMMED BETWEEN LANDING GEAR MICROSWITCHES.								
2430		BEECH	PWA			ELECT POWER	LOSS	679	5/6/93
		65A90	PT6A20				DC SYS		CA930527205
	(CAN) 10-20 MINUTES AFTER A LIGHTNING STRIKE, THE AIRCRAFT EXPERIENCED A TOTAL LOSS OF ELECTRICAL POWER. PILOT UNABLE TO RESTORE ANY SYSTEM WITH GENERATOR OR BATTERY. BATTERY VOLTAGE AT 12V. BATTERY RECHARGED AND START/GEN REPLACED. UNABLE TO DETERMINE CAUSE.								
5711		BNORM	LYC	HARTZL		WEB	CRACKED		1/28/98
		BN2A26	O540E4C5	HCC2YK2			LT WING SPAR		AU980071
	(AUS) LH WING SPAR WEB CRACKED BEYOND LIMITS.								
5711		BNORM	LYC	HARTZL		WEB	CRACKED		1/29/98
		BN2A26	O540E4C5	HCC2YK2			RT WING SPAR		AU980072
	(AUS) LH AND RH SPAR WEBS CRACKED BEYOND LIMITS.								
2910		CESSNA	CONT	MCAULY		HOSE	DETERIORATED		1/22/98
		402C	TSIO520VB	3AF32C505		AE1003757G0310	HYDRAULIC MAIN		AU980069
	(AUS) HYDRAULIC PRESSURE HOSE LOCATED BETWEEN RH HYDRAULIC PUMP AND FIREWALL DAMAGED AND LEAKING. LANDING GEAR WOULD NOT EXTEND AND AIRCRAFT LANDED WITH GEAR UP. INVESTIGATION FOUND THAT THE HOSE FAILED DUE TO EXPOSURE TO HEAT WITH THE FIRE SLEEVING AND THE OUTER HOSE CASE BURNED THROUGH DUE TO POSITIONING ON THE RH ENGINE EXHAUST PIPE STAINLESS STEEL SHROUD WHICH WAS TOUCHING THE EXHAUST PIPE.								
2910		CESSNA	CONT	MCAULY	CESSNA	PIPE	CORRODED		1/30/98
		402C	TSIO520VB	3AF32C505	402C	520010789	HYD MAIN		AU980091
	(AUS) RH MAIN LANDING GEAR RETRACTION SYSTEM HYDRAULIC PIPE LOCATED IN AREA BELOW THE RH FLOOR CONTAINED PITTING CORROSION. SUSPECT DUETO CONTACT WITH DUCTING INSULATION.								
2435		DHAV	PWA		LUCAS	BEARING	UNAPPROVED		12/18/97
		DHC6300	PT6A27		23048004	9204SSX10	START/GEN	987	CA971231025
*****	(CAN) INSPECTION FOUND THAT THE BEARINGS WERE UNAPPROVED FOR THIS INSTALLATION. THE BEARING FOUND WAS MANUFACTURED BY BARDEN. ONLY LUCAS BEARINGS P/N 03-6010-18 SHOULD BE USED. THERE WAS ALSO A BRASS SHIM BETWEEN THE DRIVE SHAFT AND THE DAMPER HUB ALLOWING THE HUB TO SIT LOWER DOWN ON THE SHAFT. THIS IS ALSO AN UNAPPROVED PRACTICE. IN ADDITION, THE FRONT END BELL LINER WAS NOT REPAIRED PER APPROVED SPECS.								
3320		DHAV	PWA			CIRCUIT BREAKER	FUSED		12/12/97
		DHC6100	PT6A20			D727185	COCKPIT OVERHEAD		CA971231030
	(CAN) WHEN GROUND POWER APPLIED, AND CABIN LIGHTS SELECTED ON, SMOKE WAS OBSERVED COMING FROM THE OVERHEAD CIRCUIT BREAKER PANEL. WIRING FOR THE LEFT HAND CABIN LIGHTS DIM WAS FOUND COMPLETELY BURNT. THE 5 AMP CIRCUIT BREAKER WAS FUSED IN THE CLOSED POSITION. THE CB COULD NOT TRIP AND THE FIRST DIM LIGHT SOCKET WAS SHORTED CAUSING THE PROBLEM. SEVERAL SOCKETS WERE REPLACED BECAUSE OF CORROSION AND BAD CONNECTIONS. SUBMITTER SUSPECTS THAT THE CB PROBLEM MAY HAVE BEEN CAUSED BY REPEATED RESETTING OF IT IN-FLIGHT.								
3260		EMB	PWA	HARTZL		SWITCH	FAILED		1/23/98
		EMB110P1	PT6A34	HCB3TN3		MS272402	LANDING GEAR POS		AU980089
	(AUS) LH MAIN LANDING GEAR DOWN MICROSWITCH FAULTY.								

******* DENOTES SIGNIFICANT OCCURRENCE**

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5711		GULSTM	LYC	HARTZL		STRAP	CRACKED		1/3/98
		500B	IO540E1B5	HCA3VK4			WING SPAR STRUCT		AU980081
	(AUS) LH WING UPPER SPAR STRAP CRACKED. RH WING LOWER SPAR STRAP ALSO CRACKED. FOUND DURING INSPECTION IAW SB 223.								
2731		PIPER		HARTZL		ACTUATOR	WORN		2/5/98
		PA31350		HCE3YR2		17088000	ELEVATOR TAB CON		AU980103
	(AUS) ELEVATOR TRIM ACTUATOR WORN. ILLEGAL METAL SHIM INSTALLED BETWEEN THE ACTUATOR DRUM AND THE DRUM HOUSING. PERSONNEL/MAINTENANCE ERROR. UNAPPROVED PART.								
2842		PIPER	LYC	HARTZL		TRANSMITTER	DEFECTIVE		1/15/98
		PA31	TIO540A2B	HCE3YR2		4064802030405	FUEL QUANTITY		AU980082
	(AUS) FIVE OUT OF EIGHT FUEL QUANTITY TRANSMITTERS WERE FAULTY WITH RESISTANCE VALUES OUT OF LIMITS.								
3210		PIPER		HARTZL		LANDING GEAR	WORN		2/5/98
		PA31350		HCE3YR2			LANDING GEAR SYS		AU980106
	(AUS) LH, RH AND NOSE LANDING GEAR TRUNNIONS, LINKS, ROD AND ACTUATOR BEARINGS AND BUSHINGS WORN BEYOND LIMITS. ALL LANDING GEARS HAVE EXCESSIVE WEAR AND PLAY.								
3222		PIPER		HARTZL		PISTON	WORN		2/5/98
		PA31350		HCE3YR2		4533303	NLG OLEO		AU980100
	(AUS) NOSE LANDING GEAR OLEO PISTON CHROME PLATING WORN. SIZE OF WORN AREA APPROXIMATELY 50.8MM (2IN) IN DIAMETER.								
3222		PIPER		HARTZL		TRUNNION	DAMAGED		2/5/98
		PA31350		HCE3YR2		40273000	NOSE GEAR		AU980099
	(AUS) NOSE LANDING GEAR TRUNNION DEFORMED IN AREA OF NOSE WHEEL STEERING LOCK/STOP. CRACKING STARTING TO DEVELOP ON THE INSIDE EDGE OF THE STOP.								
3233		PIPER		HARTZL	WIEBEL	ACTUATOR	BROKEN		2/5/98
		PA31350		HCE3YR2	21151	757499	MLG ACTUATOR		AU980102
	(AUS) MAIN LANDING GEAR ACTUATOR SHAFT BROKEN. RAM ADJUSTMENT STOP HAS BEEN ILLEGALLY MODIFIED WITH THE PLAIN NUT REPLACED WITH A METALLOCKNUT AND THE REMAINING LOCKING NUT NOT LOCKWIRED. UNAPPROVED PART. PERSONNEL/MAINTENANCE ERROR.								
3252		PIPER		HARTZL		DAMPER	CORRODED		2/5/98
		PA31350		HCE3YR2		2170105	SHIMMY DAMPER		AU980101
	(AUS) NOSE LANDING GEAR SHIMMY DAMPER PISTON CORRODED AND CHROME PLATING RUSTED OFF. SHIMMY DAMPER ALSO LOW ON OIL.								
5280		PIPER		HARTZL		DOOR	CRACKED		2/5/98
		PA31350		HCE3YR2		475293031	RT MLG		AU980109
	(AUS) LH AND RH MAIN LANDING GEAR FLIPPER DOORS EXTENSIVELY CRACKED.DOORS HAD BEEN PREVIOUSLY REPAIRED.								
5311		PIPER		HARTZL		FRAME	CRACKED		2/5/98
		PA31350		HCE3YR2		4105008	DOOR SUPPORT		AU980108
	(AUS) CABIN DOOR HINGE SUPPORT FRAME FAILED CAUSING THE DOOR SILL AND FLOOR SKIN TO CRACK. SUSPECT CAUSED BY ILLEGAL USE OF CHAINS FORTHE DOOR SUPPORT INSTEAD OF CABLE AND TURNBARREL ASSEMBLY.UNAPPROVED PART.								
5320		PIPER		HARTZL		FRAME	CRACKED		2/5/98
		PA31350		HCE3YR2		43179001	RUD TORQ TUBE MT		AU980105
	(AUS) RUDDER PEDAL TORQUE TUBE CENTRE MOUNT SEPARATED FROM THE CENTRE CONSOLE ASSEMBLY.								

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5510		PIPER		HARTZL	PIPER	HINGE	CRACKED		1/5/98
		PA31350		HCE3YR2	40155	42235	HORIZONTAL STAB		AU980084
	(AUS) HORIZONTAL STABILISER OUTBOARD HINGE BRACKETS CRACKED.								
5523		PIPER		HARTZL	PIPER	BRACKET	CRACKED		1/23/98
		PA31350		HCE3YR2	4042009	4042010	ELEV TAB HINGE		AU980085
	(AUS) ELEVATOR TRIM TAB HINGE BRACKETS PNO 4042-010, PNO 4042-009 AND PNO 4042-008 CRACKED.								
5710		PIPER		HARTZL		FRAME	CRACKED		2/5/98
		PA31350		HCE3YR2		454490809	LT RT WING		AU980107
	(AUS) LH AND RH WING ARCH FRAMES CONTAIN NUMEROUS CRACKS. LONGEST CRACK IS MORE THAN 127MM (5IN) IN LENGTH. CAUSED BY CONTACT WITH BRAKE CYLINDERS.								
5751		PIPER		HARTZL		BEARING	WORN		2/5/98
		PA31350		HCE3YR2		452386	LT RT AIL HINGE		AU980111
	(AUS) LH AND RH AILERON HINGE BEARINGS WORN.								
5753		PIPER		HARTZL		FLAP	CORRODED		2/5/98
		PA31350		HCE3YR2		4018543	TE FLAP STRUCTUR		AU980104
	(AUS) RH FLAP LEADING EDGE SKIN SEPARATED OVER A LENGTH OF 203.2MM(8IN) IN AREA BEHIND ENGINE DUE TO CORROSION AND RIVET FAILURE.								
8120		PIPER	LYC	HARTZL		BLANKET	BURNT		2/5/98
		PA31350	TIO540J2BD	HCE3YR2		452939	LT RT EXH TURBO		AU980110
	(AUS) LH AND RH ENGINE TURBOCHARGER INSULATION BLANKETS DETERIORATED AND BURNT.								

(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT)

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6330		AEROSP	ALLSN			SUSPENSION BAR	DEBONDED	456	10/25/97
		AS355F1	250C20F		355A32060001	355A38004004	BEARING		CA971110017
	(CAN) ON DAILY INSPECTION IT WAS NOTED THAT RIGHT SIDE TRANSMISSION FORWARD SUSPENSION BAR AND THE AFT RIGHT SIDE SUSPENSION BAR LOWER BEARINGS HAD BECOME DEBONDED FROM THE METAL BAR.								
2121		BELL	ALLSN		DYNAMICAIR	BLOWER	VIBRATING		11/12/97
		206B	250C20B			C241500E	CABIN	4	CA971216042
	(CAN) CASEY BLOWER MOTOR HAD EXCESSIVE VIBRATION AFTER OVERHAUL.								
3040		BELL	ALLSN			BLOWER	FAILED		9/16/97
		206B	250C20			2060704755	DEFOG	3	CA971113058
	(CAN) DEFOG BLOWER MADE A CLANGING NOISE AND THEN QUIT.								
6220		BELL	ALLSN			BUFFER PAD	DISBONDED	4531	10/10/97
		206L1	250C28B		206011100025	GD80172	M/R GRIP		CA971113046
	(CAN) ROTOR HEAD ASSEMBLY RECEIVED FROM VENDOR TSO ZERO HOURS. SAME FOUND BUFFER PAD ON GRIP DEBONDED BY APPROXIMATELY 50 PERCENT.								
6220		BELL	ALLSN			GRIP	CORRODED	4533	10/6/97
		206L1	250C28B		206011100025	206011132009	M/R HEAD	817	CA971113045
	(CAN) CORROSION BEYOND LIMITS FOUND UNDER DEBONDED UPPER BLADE GRIP BUFFER PAD.								
6310		BELL	ALLSN			O-RING	LEAKING	10626	9/9/97
		206B	250C20		206040230025		INNER SHAFT	647	CA971113047
	(CAN) STATIC LEAK OUT OF FRONT PLUG OF FREEWHEEL. PLUG WAS REMOVED AND NEW O-RING INSTALLED. OLD RING WAS DRY AND CRACKED.								
6520		BELL	ALLSN			GEARBOX	PRELOADING	16485	8/25/97
		206B	250C20			2060404005	T/R	3584	CA971015046
	(CAN) TAIL ROTOR GEARBOX PITCH CHANGE SHAFT PRE-LOADING TO ONE SIDE WHEN PITCH CHANGE LINKS ARE TORQUED CAUSING VIBRATION.								
6720		BELL	ALLSN			SUPPORT ASSEMBLY	CORRODED	17662	10/9/97
		206B	250C20			206030111003	FWD BELLCRANK		CA971113052
	(CAN) SEVERE CORROSION FOUND ON AFT LOWER SIDE OF TAIL ROTOR FORWARD CONTROL ROD BELLCRANK SUPPORT.								
6730		BELL			RONSON	BOLT	OVERTORQUED	9840	7/8/97
		206L1			2060760623		SERVO	867	CA971216037
	(CAN) HYDRAULIC SERVO PILOT BOLT FOUND TO HAVE WASHER BOTTOMED ON SHOULDER OF BOLT, SIGNIFYING OVERTORQUE OF THE BOLT.								
7120		BELL	ALLSN			STIFFENER	CRACKED		11/20/97
		206L	250C20B		206033302103	206033201163	FWD LEFT LEG		CA971208004
	(CAN) BOTH STIFFENER AND FRAME CRACKED AND BROKEN OFF AFT OF HOLE STATION 154.50, AT FORWARD LEFT LEG. FRAME CRACKED APPROXIMATELY .75 INCH ON EACH SIDE INBOARD AND OUTBOARD AFT SIDE OF LEFT ENGINE MOUNT ATTACHMENT BOLT. SRM SECTION 5-1-4 HAS REPAIR.								
7310		BELL	ALLSN			FUEL LINE	CRACKED		9/24/97
		206B	250C20			6875632	ENG FUEL		CA971113048
	(CAN) FUEL LEAK FOUND WITH LINE CRACKED AT THE FLARE UNDER THE COLLAR AND "B" NUT. LINE HAD BEEN INSTALLED CORRECTLY.								

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7323		BELL	ALLSN			GOVERNOR	FAILED	6361	10/30/97
		206B	250C20			23006259	TURB GOV	396	CA971113053
	(CAN) ROTOR RPM DROOPS TO 98 PERCENT WITH NO RECOVERY BY GOVERNOR. UNABLE TO ADJUST TO MAINTAIN PROPER RPM. TWO PREVIOUS REMOVALS FOR SAME REASON. PART TC: 2.								
7714		BELL	ALLSN			PLUG	WORN		11/4/97
		206B	250C20		206062627003		N1 TACH GEN		CA971113054
	(CAN) N1 TACH GENERATOR INDICATION INTERMITTENT. CANNON PLUG PIN WORN AND PUSHED IN.								
2910		BELL				ELBOW	CRACKED		10/8/97
		212				MS21926W6	HYD LINE		CA971016020
	(CAN) A SLIGHT LEAK AT A HYDRAULIC LINE P/N 212-076-348-1 BECAME WORSE WHEN THE 'B' NUT WAS TIGHTENED. ELBOW WAS FOUND CRACKED IN 2 LOCATIONS ABOUT 180 DEGREES APART. THE CRACKS RADIATED FROM END OF FLARE.								
6210		BELL	PWA			TIP CAP	FAILED		10/22/97
		212	PT6T3		212040004005	204012001015	M/R BLADE		CA971028012
	(CAN) TIE DOWN WAS INSTALLED ON FORWARD AND REAR BLADE OF AIRCRAFT DUE TO HIGH WINDS. TIP CAP FAILED DUE TO FLAPPING CAUSED BY HIGH WINDS THEN FORWARD MAIN ROTOR BLADE CONTACTED WIRE STRIKE KIT, CAUSING DAMAGE TO MAIN ROTOR BLADE.								
6310		BELL	PWA			SPIRALBEVEL GEAR	CRACKED	8914	11/6/97
		212	PT6T3		212040001123	204040701101	MATING FLANGE	990	CA971110004
	(CAN) IN NORMAL SERVICE, THE ATTACHMENT BOLT TORQUE OF THE GEAR TO SHAFT (P/N 204-040-324-5) BECAME REDUCED RESULTING IN FRETTING CORROSION OF THE MATING SURFACES. A SURFACE CRACK WAS FOUND DURING OVERHAUL BETWEEN TWO OF THE ATTACH BOLT HOLES IN THE GEAR. SUBMITTER SUSPECTS THAT CRACK ONLY EXTENDS THROUGH THE SURFACE HARDENING.								
6310		BELL	PWA			COUPLINGS	NO LUBE		11/3/97
		212	PT6T3		212040005103		M/R DRIVE		CA971113060
	(CAN) INSUFFICIENT GREASE IN BOTH DRIVE SHAFT COUPLINGS. IN ADDITION, ONE BOOT WAS FOUND COMPLETELY TORN.								
6730		BELL	PWA			SERVO	MALFUNCTIONING		10/8/97
		212	PT6T3			2120760057	CYCLIC	207	CA971016019
	(CAN) FOLLOWING INSTALLATION OF THIS SERVO, THE PILOT REPORTED CONTROL FEEDBACK IN THE CYCLIC CONTROL.								
6510		BELL	ALLSN			BRACKET	CRACKED	451	11/20/97
		407	250C47B		407040001101	407040321101	T/R DRIVE		CA971210019
	(CAN) COMPLYING WITH AD CF-97-19, FORWARD BEARING STARTED TO MAKE NOISE. WHILE REPLACING BEARING, THE BRACKET WAS FOUND CRACKED. PART TC: 630.								
6510		BELL			REXNARD	DISC	CRACKED	303	10/2/97
		407				406040340101	NR 7 AFT OUTER		CA971021023
	(CAN) AS PER AD CF-97-19, INSPECTION OF TAIL ROTOR DRIVE SHAFT THOMAS COUPLINGS CARRIED OUT. THE AFT OUTER DISC OF THE NR 7 DISC PACK WAS FOUND BROKEN IN TWO PLACES. DISC PACKS TAKEN FOR TESTING BY BELL. BHTC IS REDESIGNING DISCS TO OVERCOME MID-SPAN CRACKING.								
2551		BOLKMS	ALLSN			CARGO HOOK	FAILED		10/23/97
		BO105C	250C20B			AZ5LT	SLING LOAD		CA971119007
	(CAN) CARGO HOOK INADVERTENTLY RELEASED SLING LOAD IN-FLIGHT. ON TESTING CIRCUIT, IT TRIPPED THE CIRCUIT BREAKER. ON ONE OCCASION THE HOOK WOULD NOT RELEASE DURING TEST.								
6310		BOLKMS				BEARING	PEELING		10/6/97
		BO105S			4638001001	4619303081	MAIN XMSN	852	CA971024010
	(CAN) MAIN TRANSMISSION LEFT INTERMEDIATE SHAFT BEARING FOUND PEELING.								

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
6320		BOLKMS	ALLSN			TRANSMISSION	FAILED	5968	10/8/97
		BO105C	250C20B			4638001001	M/R GR BOX	1984	CA971020017
	(CAN) METAL PARTICLES ON MAGNETIC CHIP PLUG OF SIZE AND QUANTITY DEEMED UNACCEPTABLE BY THE MANUFACTURER.								
6410		BOLKMS	ALLSN			BLADE	ERRODED	2600	10/8/97
		BO105C	250C20B			10531754	TAIL ROTOR		CA971020018
	(CAN) HOLE ERODED THROUGH LEADING EDGE OF TIP CAP.								
6220		HUGHES	ALLSN			FAIRING	SEPARATED		1/17/98
		369E	250C20B			369D2100411	MAIN ROTOR HEAD		AU980097
	(AUS) MAIN ROTOR HEAD FAIRING (CHINAMANS HAT) SEPARATED FROM AIRCRAFT.SUSPECT FAIRING DEVELOPED A CRACK ALLOWING THE FAIRING TO FLEX AND LOOSEN THE ATTACHMENT SCREWS.								
6410		HUGHES	ALLSN			BLADES	DELAMINATED	2910	10/29/97
		369D	250C20B			369D2161311N	T/R	130	CA971125004
	(CAN) LEADING EDGE STRIP OF BOTH TAIL ROTOR BLADES DEBONDING. DEBONDING OCCURRED IN SAME AREA ON BOTH BLADES.								
6710		HUGHES	ALLSN			SWITCH	FAILED		10/20/97
		369D	250C20B			A218100646	CYCLIC TRIM		CA971113041
	(CAN) CYCLIC TRIM SWITCH FAILED CAUSING A HARD LEFT TRIM MOTOR RUN AWAY.								
7323		HUGHES	ALLSN		BENDIX	GOVERNOR	FAILED		10/3/97
		369D	250C20B			23057869	TURBINE	210	CA971113032
	(CAN) GOVERNOR ALLOWS RPM TO DROOP 3 PERCENT WITH NO RECOVERY AND OVERSPEEDS 2 TO 3 PERCENT. ERRATIC OPERATION, OCCASIONAL SURGING, RIGGING COULD NOT ADJUST.								
7910		HUGHES	ALLSN			BOOT	SPLIT		11/28/97
		369D	250C20B				OIL TANK		CA971216039
	(CAN) RUBBER BOOT CONNECTING THE ENGINE OIL TANK TO THE AIRFRAME FILLER NECK SPLIT UNDER THE ATTACHING CLAMP CAUSING THE LOSS OF 1.5 LITRE OF OIL.								
6210		SKRSKY	PWA			BLADE	DEBONDING	3049	10/21/97
		S58ET	PT6T6			S1615203016	M/R		CA971125003
	(CAN) DEBONDING OF POCKET FROM MAIN ROTOR BLADE. A SECTION 8 INCHES BY 8 INCHES CAME OFF.								
2913		SKRSKY				BOLTS	BROKEN		9/29/97
		S61N			66WBL200		PUMP END HOUSING	54	CA971110002
	(CAN) THREE OF THE TOTAL OF EIGHT INTERNAL HEX BOLTS WERE FOUND BROKEN. THESE BOLTS GO THROUGH THE END HOUSING OF THE HYD PUMP.								
2435		SNIAS	TMECA		AUXILEC	SHAFT	SHEARED	5891	11/9/97
		AS350B	ARRIEL1B		524031A	1142	START/GEN	795	CA971216040
	(CAN) DRIVESHAFT SHEARED, SUSPECT ON START. PART TC: 65.								
2435		SNIAS	TMECA		AUXILEC	DRIVE SHAFT	SHEARED	6211	9/17/97
		AS350B	ARRIEL1B		524031	1144	START/GEN	932	CA971113037
	(CAN) STARTER GENERATOR DRIVE SHAFT SHEARED DURING START.								
2821		SNIAS	TMECA		PUROLATOR	FUEL FILTER	FAILED TEST	297	9/15/97
		AS350BA	ARRIEL1B			174364001	FUEL SYS		CA971113044
	(CAN) FUEL FILTER ASSEMBLY DID NOT INDICATE BYPASS WHEN PRE-FLIGHT BUTTON PUSHED OR ON DUMMY FILTER INSTALLATION FOR TESTING.								

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2842		SNIAS	TMECA		JAEGER	TRANSMITTER	FAILED		8/8/97
		AS350B	ARRIEL1B			647510033	FUEL QTY	86	CA971015042
	(CAN) NO FUEL QUANTITY INDICATION. RESISTANCE CHECK OUT OF LIMITS.								
2913		SNIAS	TMECA			PUMP	OVERHEATED		10/18/97
		AS350B	ARRIEL1B			350A35013504	BEARINGS		CA971113057
	(CAN) BEARINGS VERY TIGHT AND NOISY, AND RUNNING HOT. CAUSED DAMAGE TO THE HYDRAULIC PUMP DRIVE BELT P/N 704-A33-690-004.								
2930		SNIAS	TMECA			SWITCH	MISWIRED	2563	10/19/97
		AS350BA	ARRIEL1B		70335476	NE15FBAT	HYD SYS		CA971104013
	(CAN) HYDRAULIC CUT-OFF SWITCH WAS MISWIRED TO WARNING HORN, BUT FUNCTIONED PROPERLY IN THE HYDRAULIC CUTOFF MODE. RE: SB 29.01. PART TC: 692.								
3040		SNIAS	TMECA			HOSE	RUPTURED	9831	9/9/97
		AS350B	ARRIEL1B			350A72072102	DEFROST		CA971015048
	(CAN) DEFROST HEATER HOSE DETERIORATED AND BLEW APART MELTING THE FIRST AID KIT.								
3422		SNIAS	TMECA			DIRECTIONAL GYRO	FAILED		10/30/97
		AS350B	ARRIEL1B			200DC	COCKPIT DG	24	CA971216038
	(CAN) DIRECTIONAL GYRO SPINS CONTINUOUSLY AND VERY RAPIDLY.								
3422		SNIAS	TMECA			CASING	BROKEN		9/15/97
		AS350B	ARRIEL1B		5050010902		COCKPIT DG	486	CA971015051
	(CAN) BACK CYLINDRICAL PIECE OF DIRECTIONAL GYRO FOUND HANGING BY INTERNAL WIRING. MOUNTING HARDWARE RATTLING AROUND ON INSIDE.								
6520		SNIAS				GEARBOX	FAILED	8246	10/15/97
		AS350B2				350A33020004	TAILROTOR	1002	CA971028009
	(CAN) TAIL ROTOR GEARBOX MAGNETIC CHIP DETECTOR ILLUMINATED DURING CRUISE JUST AFTER TAKEOFF. A LOT OF SHAVINGS AND CHIPS FOUND. PLUG CLEANED. AIRCRAFT RUN-UP, SHUTDOWN AND CHECKED. MORE METAL FOUND. GEARBOX SENT FOR CHECK.								
6710		SNIAS	TMECA			FRICTION CUP	DEFECTIVE	268	10/10/97
		AS350BA	ARRIEL1B		350A270553	350A27161220	CYCLIC LOWER		CA971021012
	(CAN) PILOT REPORTED CYCLIC CONTROLS WERE BINDING WHEN FRICTION KNOB WAS TURNED TO APPLY FRICTION. OK WITHOUT FRICTION. LOWER CUP NOT PERFECTLY ROUND. SURFACE REWORKED.								
6730		SNIAS	TMECA		DUNLOP	SERVO	LEAKING	453	9/16/97
		AS350B	ARRIEL1B			AC67246	M/R	229	CA971113035
	(CAN) SERVO LEAKING AN EXCESSIVE AMOUNT OF OIL.								
7410		SNIAS	TMECA			HE GENERATOR	FAILED		8/15/97
		AS350B	ARRIEL1B			ABG676000	ENG IGN		CA971015043
	(CAN) HIGH ENERGY GENERATOR INSTALLED TO CORRECT INTERMITTENT IGNITION PROBLEM. PROBLEM PERSISTED. NEW GENERATOR WAS FAULTY.								
6320		SNIAS	TMECA			SLEEVE	CRACKED		10/14/97
		AS332L	MAKILA1A		332A32100701	332A32228822	M/R GR BOX		CA971121004
	(CAN) FRENCH AD T97-303-066, REQUIRED INSPECTION OF THE SLEEVE, SPLINED SHAFT. INSPECTION INCLUDED A DYE PENETRANT OF SHAFT WHICH DETECTED TWO SMALL WEAR MARKS ON THE FRONT OF THE SHAFT ABOUT 120 DEGREES APART. FURTHER INVESTIGATION FOUND THAT THESE WEAR MARKS REVEALED A NUMBER OF SMALL CRACKS ORIGINATING AT WEAR MARKS AND CONTINUING AFT TOWARD THE SPLINES. PARTS SENT FOR ANALYSIS.								

(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS)

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7200		BEECH	PWA			ENGINE	CHIP LIGHT		12/22/97
		99A	PT6A28				NR 1	519	CA971231005
	(CAN) PILOT REPORTED NR 1 ENGINE CHIP DETECTOR LIGHT CAME ON 6 MINUTES AFTER TAKEOFF. THE ENGINE WAS SHUTDOWN AND THE AIRCRAFT RETURNED TO BASE. REMOVAL OF CHIP DETECTOR REVEALED A LARGE PIECE OF METAL ACROSS THE LUGS. THE ENGINE WAS A LOANER AND WAS RETURNED TO THE OVERHAUL FACILITY FOR DISPOSITION. THE ENGINE HAS NOT BEEN SPLIT TO DETERMINE THE SOURCE OF THE METAL. PART TC: 718.								
7310		BELL	ALLSN			FUEL LINE	CRACKED		9/24/97
		206B	250C20			6875632	ENG FUEL		CA971113048
	(CAN) FUEL LEAK FOUND WITH LINE CRACKED AT THE FLARE UNDER THE COLLAR AND "B" NUT. LINE HAD BEEN INSTALLED CORRECTLY.								
7323		BELL	ALLSN			GOVERNOR	FAILED	6361	10/30/97
		206B	250C20			23006259	TURB GOV	396	CA971113053
	(CAN) ROTOR RPM DROOPS TO 98 PERCENT WITH NO RECOVERY BY GOVERNOR. UNABLE TO ADJUST TO MAINTAIN PROPER RPM. TWO PREVIOUS REMOVALS FOR SAME REASON. PART TC: 2.								
8520		CESSNA	CONT			DOWEL	SHEARED		9/14/97
		150L	O200A		643250	637832	STARTER CLUTCH	388	CA971231011
	(CAN) ENGINE LOG STATES STARTER CLUTCH WAS CHANGED AT AN UNDETERMINED TIME PRIOR TO THIS FAILURE. THE DOWEL ASSEMBLY THAT RETAINS THE STARTER CLUTCH ADAPTER APPEARS TO HAVE SHEARED. THIS CONDITION ALLOWED THE ADAPTER TO MOVE FREELY IN ITS BORE RESULTING IN GEAR MISALIGNMENT AND SUBSEQUENT PRESSURES THAT FAILED THE CRANKCASE. THE REASON FOR THE DOWEL FAILURE IS UNKNOWN, BUT POSSIBLE INCORRECT INSTALLATION OF THE STARTER CLUTCH ASSEMBLY (P/N 643231) CAUSED THE DOWEL TO FAIL.								
7322		CESSNA	CONT			CARBURETOR	FAILED		12/14/97
		182Q	O470U			105284	ENGINE	923	CA971223011
	(CAN) SEVERE CARBURETOR FLOODING ON GROUND RUN-UP, HARD STARTING AND FOULING OF SPARK PLUGS. FUEL WAS SEEN LEAKING FROM THE CARBURETOR. ENGINE FAILED TO SHUTDOWN USING MIXTURE CONTROL AND SEVERE BACKFIRING OCCURRED. THE CARBURETOR WAS REPLACED AND THE PROBLEM WAS ELIMINATED.								
7323		HUGHES	ALLSN		BENDIX	GOVERNOR	FAILED		10/3/97
		369D	250C20B			23057869	TURBINE	210	CA971113032
	(CAN) GOVERNOR ALLOWS RPM TO DROOP 3 PERCENT WITH NO RECOVERY AND OVERSPEEDS 2 TO 3 PERCENT. ERRATIC OPERATION, OCCASIONAL SURGING, RIGGING COULD NOT ADJUST.								
8520		PIPER	LYC			CAMSHAFT	WORN		12/29/97
		PA22108	O235C1				ENGINE	855	CA971231022
	(CAN) ENGINE CAMSHAFT FOUND WORN. ENGINE CAMSHAFT REPLACED.								
7322		PIPER	LYC	SNSNCH	FACET	WASHER	WORN		2/3/98
		PA28181	O360A4M	76EM8	MA45	78356	FUEL CARB		AU980075
	(AUS) CARBURETTOR MIXTURE SHAFT RETAINING RING WORN AND LOOSE ALLOWING THE MIXTURE SHAFT TO MOVE FROM ITS NORMAL POSITION. THIS CAUSED A RICH CUT WHEN THE ENGINE WAS BROUGHT BACK TO IDLE FOR LANDING.								

(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - ENGINES)

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2562		BEECH	PWA	HARTZL		BATTERY	LEAKING		1/22/98
		200BEECH	PT6A41	HCB3TN3	E01		EMERGENCY LOCATO		AU980064
	(AUS) ELT BATTERIES LEAKING. FOUND DURING BATTERY CHANGE.								
3422		SNIAS	TMECA			DIRECTIONAL GYRO	FAILED		10/30/97
		AS350B	ARRIEL1B			200DC	COCKPIT DG	24	CA971216038
	(CAN) DIRECTIONAL GYRO SPINS CONTINUOUSLY AND VERY RAPIDLY.								
3422		SNIAS	TMECA			CASING	BROKEN		9/15/97
		AS350B	ARRIEL1B		5050010902		COCKPIT DG	486	CA971015051
	(CAN) BACK CYLINDRICAL PIECE OF DIRECTIONAL GYRO FOUND HANGING BY INTERNAL WIRING. MOUNTING HARDWARE RATTLING AROUND ON INSIDE.								

(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS)

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
6114		PIPER	LYC	HARTZL		BLADE BEARINGS	CORRODED	3189	12/19/97
		PA24250	O540A1A5	HC82V*		790100018	PROP	813	CA971231018
	(CAN) PROPELLER RECEIVED FOR CORROSION INSPECTION. BLADE BALL BEARINGS AND PILOT TUBE FOUND CORRODED.								
6114		PIPER	LYC	HARTZL		SCREWS	LOOSE	1140	12/20/97
		PA30	IO320B1A	HCE2YL2	83021	AN501A41610	LATCH STOP		CA971231020
	(CAN) UPON REMOVAL OF THE PROPELLER CYLINDER FOR PROP OVERHAUL, FOUND 3 OF THE 4 SCREWS (AN501-A416-10) HAD VIBRATED COMPLETELY OFF THE LATCH STOP UNIT WHICH SECURES IT TO THE CYLINDER. THE 4TH SCREW HAD LOCKTITE ON THE SCREW THREADS. BUT THE SCREWS WERE NOT COMPLETELY SECURED TO THE LOCK STOP BASE. TWO OF THE 4 LATCH PINS WERE HOLDING THE PROPELLER BLADES IN THE LATCH POSITION. THE OTHER 2 WERE STUCK IN THE EXTENDED POSITION. THE PITCH STOP BRACKET WAS ALSO DAMAGED.								
6111		PIPER	LYC	HARTZL	HARTZL	LOCKING PINS	MISSING	494	12/20/97
		PA31	TIO540A2C	HCE3YR2A	FC84686R	57A0285	PROP		CA971231019
	(CAN) DURING INSPECTION PRIOR TO DECONTAMINATION, FOUND THE COUNTERWEIGHT LOCKING ROLL PINS WERE MISSING ON ALL THREE BLADES (6 BOLTS). ALSO, THE COUNTERWEIGHT BOLTS WERE NOT DRILLED FOR THE 57A0285 ROLL PINS.								

(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS)

U.S. Department
of Transportation
Federal Aviation Administration

SERVICE DIFFICULTY REPORT SUMMARY

GENERAL AVIATION - INDEX

The following information provides a tally of the Service Difficulty Reports (SDR's) contained in this weeks issue of the General Aviation SDR Summary. The totals represent only a summation of the SDR's that were submitted to the FAA, Aviation Data Systems Branch, AFS-620, and processed in time for inclusion in the Summary. The first table is a tally of the number of SDR's submitted through the indicated Flight Standards District Office (FSDO). The second table sorts the SDR's by the aircraft or equipment make and model. The heading at the top of each table provides a two digit Joint Aircraft System/Component (JASC) code grouping (e.g., JASC codes 1100 thru 1800 are represented by the heading labeled 11-18) which categorizes in general, the problem areas for each reported discrepancy.

The Flight Standards Service Difficulty Program objective is to achieve prompt and appropriate correction of conditions adversely affecting continued airworthiness of aeronautical products. This is accomplished by the collection of Service Difficulty and Malfunction or Defect Reports. SDR's are consolidation and collation into common data base where they are analyzed for trends, problems, and alert information. This information is then disseminated to the appropriate segments of the aviation community and to other FAA offices.

The number of SDR's submitted is not an indicator of the mechanical reliability or fitness of an air carrier's aircraft fleet and should not be used as such. The air carriers certificate holding office has the primary responsibility for planning, programming evaluations, and assessing the performance of operators. Questions regarding an air carrier's fleet performance should be directed to the appropriate Flight Standards District Office, Certificate Management Office, or Certificate Management Unit.

GENERAL AVIATION SUMMARY INDEX BY DISTRICT OFFICE

DISTRICT OFFICE	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								
	11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	TOTAL
AL 03	0	1	0	0	0	0	1	0	2
AU S	0	5	7	0	12	1	1	1	27
CA	0	12	5	0	0	26	9	2	54
EA 05	0	1	0	0	0	0	0	0	1
EA 17	0	0	1	0	0	0	0	0	1
EA 21	0	0	0	0	0	0	1	0	1
GL 01	0	1	0	0	0	0	0	0	1
GL 03	0	1	0	0	0	0	0	0	1
GL 19	0	0	0	0	1	0	0	0	1
GL 25	0	0	2	0	3	0	1	0	6
GL 27	0	0	0	0	0	0	1	0	1
NE 01	0	0	0	0	0	1	0	0	1
NE 05	0	0	0	0	0	1	0	0	1
NM 01	0	1	0	0	0	0	0	0	1
NM 03	0	1	0	0	3	1	0	0	5
NM 05	0	0	0	0	1	0	0	0	1
NM 07	0	1	0	0	0	0	1	0	2
NM 09	0	1	1	0	0	0	0	0	2
NM 11	0	0	0	0	1	0	13	0	14
SO 01	0	0	0	0	0	0	1	0	1
SO 03	0	1	1	0	0	0	0	0	2
SO 15	0	1	0	0	0	0	0	0	1
SO 17	0	0	0	0	3	0	0	0	3
SO 19	0	0	0	0	0	1	0	0	1
SO 21	0	0	0	0	0	0	0	1	1
SW 03	0	16	13	0	0	21	9	0	59

DISTRICT OFFICE	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								
	11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	TOTAL
SW 05	0	0	0	0	0	1	0	0	1
SW 17	0	0	0	0	1	0	0	1	2
SW 99	0	2	1	0	2	0	0	1	6
WP 07	0	0	0	0	0	1	1	0	2
WP 09	0	0	1	0	0	0	0	0	1
WP 17	0	0	0	0	1	0	0	0	1
WP 19	0	1	0	0	0	0	0	0	1
WP 23	0	0	0	0	0	0	2	0	2
TOTALS	**0**	**46**	**32**	**0**	**28**	**54**	**41**	**6**	**207**

(End of GENERAL AVIATION SUMMARY INDEX by DISTRICT OFFICE Report)

GENERAL AVIATION SUMMARY INDEX by MANUFACTURER MAKE and MODEL

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	TOTAL
AEROSP	AS355F1	0	0	0	0	0	1	0	0	1
AIRTRC	AT502A	0	0	0	0	1	0	0	0	1
AMTRMX	XP503	0	0	1	0	0	0	0	0	1
BBAVIA	7ECA	0	0	0	0	0	0	1	0	1
BEECH	200BEECH	0	1	0	0	0	0	0	0	1
BEECH	58	0	0	0	0	1	0	0	0	1
BEECH	65A90	0	1	0	0	0	0	0	0	1
BEECH	99A	0	1	0	0	0	0	1	0	2
BEECH	F33A	0	1	0	0	0	0	0	0	1
BELL	206B	0	1	1	0	0	3	3	0	8
BELL	206B3	0	1	0	0	0	0	0	0	1
BELL	206L	0	0	0	0	0	0	1	0	1
BELL	206L1	0	2	2	0	0	3	0	0	7
BELL	206L3	0	0	3	0	0	1	0	0	4
BELL	212	0	1	1	0	0	4	0	0	6
BELL	214ST	0	5	0	0	0	1	1	0	7
BELL	230	0	0	0	0	0	9	0	0	9
BELL	407	0	1	1	0	0	4	0	0	6
BELL	412	0	6	3	0	0	3	5	0	17
BELL	OH58A	0	0	1	0	0	0	0	0	1
BNORM	BN2A26	0	0	0	0	2	0	0	0	2
BOEING	1072	0	1	0	0	0	0	0	0	1
BOLKMS	BK117A3	0	0	0	0	0	0	4	0	4
BOLKMS	BK117A4	0	0	0	0	0	0	9	0	9
BOLKMS	BO105C	0	1	0	0	0	2	0	0	3
BOLKMS	BO105S	0	0	1	0	0	1	2	0	4
CESSNA	120	0	0	0	0	3	0	0	0	3

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER 11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	TOTAL
CESSNA	150L	0	0	0	0	0	0	0	1	1
CESSNA	172N	0	0	0	0	1	0	0	0	1
CESSNA	172P	0	0	0	0	0	0	0	1	1
CESSNA	182L	0	0	0	0	1	0	0	0	1
CESSNA	182Q	0	0	0	0	0	0	1	0	1
CESSNA	182S	0	0	0	0	0	0	1	0	1
CESSNA	210G	0	0	0	0	1	0	0	0	1
CESSNA	310P	0	0	1	0	0	0	0	0	1
CESSNA	310R	0	1	0	0	0	0	0	0	1
CESSNA	320A	0	0	0	0	2	0	0	0	2
CESSNA	340A	0	0	1	0	3	0	0	0	4
CESSNA	402B	0	1	0	0	0	0	0	0	1
CESSNA	402C	0	2	0	0	0	0	1	0	3
CESSNA	414A	0	1	0	0	0	1	0	0	2
CESSNA	421C	0	0	0	0	1	0	0	0	1
CESSNA	441	0	0	0	0	0	0	1	0	1
CESSNA	A185E	0	0	1	0	0	0	0	0	1
CESSNA	R172K	0	0	0	0	0	0	1	0	1
CESSNA	T210L	0	0	0	0	2	0	0	0	2
DHAV	DHC6100	0	0	1	0	0	0	0	0	1
DHAV	DHC6300	0	1	0	0	0	0	0	0	1
EMB	EMB110P1	0	0	1	0	0	0	0	0	1
ENSTRM	280C	0	0	0	0	0	1	0	0	1
GULSTM	500B	0	0	0	0	1	0	0	0	1
GULSTM	560	0	1	0	0	0	0	0	0	1
GULSTM	AA1C	0	0	0	0	0	0	0	1	1
HUGHES	369D	0	0	0	0	0	2	3	0	5

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER 11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	TOTAL
HUGHES	369E	0	0	0	0	0	1	1	0	2
PARTEN	P68C	0	0	0	0	0	0	0	1	1
PIPER	PA11	0	1	0	0	0	0	0	0	1
PIPER	PA22108	0	0	0	0	0	0	0	1	1
PIPER	PA24250	0	0	0	0	0	1	0	0	1
PIPER	PA28140	0	1	0	0	1	0	0	0	2
PIPER	PA28181	0	0	2	0	0	0	2	0	4
PIPER	PA28235	0	1	0	0	0	0	0	0	1
PIPER	PA30	0	0	0	0	0	1	0	0	1
PIPER	PA31	0	1	0	0	0	1	0	0	2
PIPER	PA31310	0	0	0	0	0	1	0	0	1
PIPER	PA31350	0	2	5	0	8	0	0	1	16
PIPER	PA34200	0	0	0	0	0	1	0	0	1
PIPER	PA34200T	0	1	0	0	0	0	0	0	1
PIPER	PA46350P	0	0	0	0	0	0	1	0	1
PIPER	PA60601P	0	1	0	0	0	0	0	0	1
ROBSIN	R44	0	0	0	0	0	2	0	0	2
SKRSKY	S58ET	0	0	0	0	0	1	0	0	1
SKRSKY	S61N	0	1	0	0	0	0	0	0	1
SKRSKY	S76A	0	0	0	0	0	0	1	0	1
SKRSKY	S76C	0	1	0	0	0	0	0	0	1
SNIAS	AS332L	0	0	0	0	0	1	0	0	1
SNIAS	AS350B	0	4	4	0	0	3	1	0	12
SNIAS	AS350B2	0	0	2	0	0	4	0	0	6
SNIAS	AS350BA	0	2	0	0	0	1	0	0	3
TOTALS		**0**	**46**	**32**	**0**	**28**	**54**	**41**	**6**	**207**

(End of AIR CARRIER SUMMARY INDEX by OPERATOR Report)

JOINT AIRCRAFT SYSTEM/COMPONENT CODE TABLE

PREFACE

The Joint Aircraft System/Component (JASC) Code Table is a modified version of the Air Transport Association of America (ATA), Specification 100 code. It was developed by the Federal Aviation Administration's (FAA), Aviation Data Systems Branch (AFS-620). Technical support was provided by the Galaxy Scientific Corporation, and various representatives of the air carrier and general aviation community.

Over the past four years, the JASC format of the ATA Spec 100 code has gained widespread industry acceptance. In a harmonized effort, the FAA's counterparts in Australia and Canada have adopted the JASC code with only a few exceptions. Some Canadian aircraft manufacturers have also recently adopted this new stardard.

This code table is constructed by using the new JASC four (4) digit code, along with an abbreviated code title. The abbreviated titles have been modified in some cases to clarify the intended use of the accompanying code. This table can be used as a quick reference chart, to assist in the coding and review of aircraft structures or systems data (i.e., Service Difficulty Report (SDR), Accident/Incident Report).

The current coding scheme used in the JASC code was introduced in May 1991, for the technical classification of SDR's. Its predecessor, the FAA aircraft system/component code, was a similar but more complex eight-digit code which was developed over 25 years ago. It was constructed around the computer technology of that period. It consisted of a four digit numerical code plus a four alpha character code to make data retrieval possible. Since that time, computer technology has advanced many fold. Reducing the code from eight to four characters simplifies coding, and in some cases, makes JASC coding match the ATA Specification 100 first three digits, which are used to identify aircraft systems. The ATA code does not reference the fourth digit, so it is free to be used for identifying components.

The JASC code aircraft structural section has increased due to problems inherent with aging aircraft. As an example, FAA code 5301 SXBD was expanded to 20 items due to the high rate of reporting in this area (8021 structural reports were received in 1989). In some instances, there was very little reporting and codes were combined into other systems if the safety impact was not significant. The overall reduction in codes has been from 568 FAA codes to 488 JASC codes, with the significant increase being in the structural area as stated earlier.

The JASC code divides the engine section into two major code groups to separate the turbine and reciprocating engines. The codes for the turbine engines are in JASC Chapter 72, Turbine/Turboprop Engine. The codes for the reciprocating engines are now exclusively found in JASC Chapter 85, Reciprocating Engine.

The other major deviation from ATA Spec 100 is in ATA section 2730, specifically involves the stall warning system. Early technology (primarily on smaller aircraft) directly linked the sensing of flight attitude to one of the components which furnished the means of manually controlling the flight attitude characteristics (elevator). Today, most large transport category aircraft utilize electronic units to sense the change in the environmental condition called stall, and use the data to influence navigation. ATA section 3410, Flight Environment Data, includes high speed warning in its code definition. Stall warning (low speed) is the reciprocal term of high speed warning, so its filing under the same code appears more logical. Thus, with the JASC code it was decided to move the stall warning system to Chapter 34 under the separate code JASC code 3418, Stall Warning System.

The FAA is continuing to pursue worldwide involvement from operators and manufacturers in addressing the need for international standardization of aircraft system/component codes. The ultimate goal is to develop a universal aircraft/component numbering standard which can be used in the manufacturer's maintenance manual, wiring diagram manual, system manuals and illustrated parts catalog. This harmonized standard must be a usable standard for the aircraft manufacturers, air carrier operators and the general aviation community.

We welcome comments and feedback regarding the possible forming of working groups to achieve this long range consideration of possibly harmonizing the ATA Specification 100 code and the JASC code. Comments may be directed to the FAA, Aviation Data Sytem Branch, AFS-620, P.O. Box 25082, Oklahoma City, OK 73125.

JOINT AIRCRAFT SYSTEM/COMPONENT CODE TABLE

JASC/ TITLE

11 PLACARDS AND MARKINGS

1100 PLACARDS AND MARKINGS

12 SERVICING

1210 FUEL SERVICING
1220 OIL SERVICING
1230 HYDRAULIC FLUID SERVICING
1240 COOLANT SERVICING

18 HELICOPTER VIBRATION

1800 HELICOPTER VIB/NOISE ANALYSIS
1810 HELICOPTER VIBRATION ANALYSIS
1820 HELICOPTER NOISE ANALYSIS

21 AIR CONDITIONING

2100 AIR CONDITIONING SYSTEM
2110 CABIN COMPRESSOR SYSTEM
2120 AIR DISTRIBUTION SYSTEM
2121 AIR DISTRIBUTION FAN
2130 CABIN PRESSURE CONTROL SYSTEM
2131 CABIN PRESSURE CONTROLLER
2132 CABIN PRESSURE INDICATOR
2133 PRESSURE REGUL/OUTFLOW VALVE
2134 CABIN PRESSURE SENSOR
2140 HEATING SYSTEM
2150 CABIN COOLING SYSTEM
2160 CABIN TEMPERATURE CONTROL SYSTEM
2161 CABIN TEMPERATURE CONTROLLER
2162 CABIN TEMPERATURE INDICATOR
2163 CABIN TEMPERATURE SENSOR
2170 HUMIDITY CONTROL SYSTEM

22 AUTO FLIGHT

2200 AUTO FLIGHT SYSTEM
2210 AUTOPILOT SYSTEM
2211 AUTOPILOT COMPUTER
2212 ALTITUDE CONTROLLER
2213 FLIGHT CONTROLLER
2214 AUTOPILOT TRIM INDICATOR
2215 AUTOPILOT MAIN SERVO
2216 AUTOPILOT TRIM SERVO
2220 SPEED-ATTITUDE CORRECT. SYSTEM
2230 AUTO THROTTLE SYSTEM
2250 AERODYNAMIC LOAD ALLEVIATING

23 COMMUNICATIONS

2300 COMMUNICATIONS SYSTEM
2310 HF COMMUNICATION SYSTEM
2311 UHF COMMUNICATION SYSTEM
2312 VHF COMMUNICATION SYSTEM
2320 DATA TRANSMISSION AUTO CALL
2330 ENTERTAINMENT SYSTEM
2340 INTERPHONE & PA SYSTEM
2350 AUDIO INTEGRATING SYSTEM
2360 STATIC DISCHARGE SYSTEM
2370 AUDIO/VIDEO MONITORING

24 ELECTRICAL POWER

2400 ELECTRICAL POWER SYSTEM
2410 ALTERNATOR-GENERATOR DRIVE
2420 AC GENERATION SYSTEM
2421 AC GENERATOR-ALTERNATOR
2422 AC INVERTER
2423 PHASE ADAPTER

24 ELECTRICAL POWER CONT'D

2424 AC REGULATOR
2425 AC INDICATING SYSTEM
2430 DC GENERATING SYSTEM
2431 BATTERY OVERHEAT WARN. SYSTEM
2432 BATTERY/CHARGER SYSTEM
2433 DC RECTIFIER-CONVERTER
2434 DC GENERATOR-ALTERNATOR
2435 STARTER-GENERATOR
2436 DC REGULATOR
2437 DC INDICATING SYSTEM
2440 EXTERNAL POWER SYSTEM
2450 AC POWER DISTRIBUTION SYSTEM
2460 DC POWER/DISTRIBUTION SYSTEM

25 EQUIPMENT/FURNISHINGS

2500 CABIN EQUIPMENT/FURNISHINGS
2510 FLIGHT COMPARTMENT EQUIPMENT
2520 PASSENGER COMPARTMENT EQUIPMENT
2530 BUFFET/GALLEYS
2540 LAVATORIES
2550 CARGO COMPARTMENTS
2551 AGRICULTURAL SPRAY SYSTEM
2560 EMERGENCY EQUIPMENT
2561 LIFE JACKET
2562 EMERGENCY LOCATOR BEACON
2563 PARACHUTE
2564 LIFE RAFT
2565 ESCAPE SLIDE
2570 ACCESSORY COMPARTMENT
2571 BATTERY BOX STRUCTURE
2572 ELECTRONIC SHELF SECTION

26 FIRE PROTECTION

2600 FIRE PROTECTION SYSTEM
2610 DETECTION SYSTEM
2611 SMOKE DETECTION
2612 FIRE DETECTION
2613 OVERHEAT DETECTION
2620 EXTINGUISHING SYSTEM
2621 FIRE BOTTLE, FIXED
2622 FIRE BOTTLE, PORTABLE

27 FLIGHT CONTROLS

2700 FLIGHT CONTROL SYSTEM
2701 CONTROL COLUMN SECTION
2710 AILERON CONTROL SYSTEM
2711 AILERON TAB CONTROL SYSTEM
2720 RUDDER CONTROL SYSTEM
2721 RUDDER TAB CONTROL SYSTEM
2722 RUDDER ACTUATOR
2730 ELEVATOR CONTROL SYSTEM
2731 ELEVATOR TAB CONTROL SYSTEM
2740 STABILIZER CONTROL SYSTEM
2741 STABILIZER POSITION INDICATING
2742 STABILIZER ACTUATOR
2750 TE FLAP CONTROL SYSTEM
2751 TE FLAP POSITION IND. SYSTEM
2752 TE FLAP ACTUATOR
2760 DRAG CONTROL SYSTEM
2761 DRAG CONTROL ACTUATOR
2770 GUST LOCK/DAMPER SYSTEM
2780 LE FLAP CONTROL SYSTEM
2781 LE FLAP POSITION IND. SYSTEM
2782 LE FLAP ACTUATOR

28 FUEL

2800 AIRCRAFT FUEL SYSTEM
2810 FUEL STORAGE
2820 ACFT FUEL DISTRIB. SYSTEM
2821 ACFT FUEL FILTER/STRAINER
2822 FUEL BOOST PUMP
2823 FUEL SELECTOR/SHUTOFF VALVE
2824 FUEL TRANSFER VALVE
2830 FUEL DUMP SYSTEM
2840 ACFT FUEL INDICATING
2841 FUEL QUANTITY INDICATOR
2842 FUEL QUANTITY SENSOR
2843 FUEL TEMPERATURE INDICATING
2844 FUEL PRESSURE INDICATOR

29 HYDRAULIC POWER

2900 HYDRAULIC POWER SYSTEM
2910 HYDRAULIC, MAIN SYSTEM
2911 HYDRAULIC POWER-ACCUMULATOR-MAIN
2912 HYDRAULIC FILTER-MAIN SYSTEM
2913 HYDRAULIC PUMP. ELECT-ENG.-MAIN
2914 HYDRAULIC HANDPUMP-MAIN
2915 HYDRAULIC PRESSURE RELIEF VLV-MAIN
2916 HYDRAULIC RESERVOIR-MAIN
2917 HYDRAULIC PRESSURE REGULATOR-MAIN
2920 HYDRAULIC, AUXILIARY SYSTEM
2921 HYDRAULIC ACCUMULATOR-AUXILIARY
2922 HYDRAULIC FILTER-AUXILIARY
2923 HYDRAULIC PUMP-AUXILIARY
2925 HYDRAULIC PRESSURE RELIEF-AUXILIARY
2926 HYDRAULIC RESERVOIR-AUXILIARY
2927 HYDRAULIC PRESSURE REGULATOR-AUX.
2930 HYDRAULIC SYSTEM INDICATING
2931 HYDRAULIC PRESSURE INDICATOR
2932 HYDRAULIC PRESSURE SENSOR
2933 HYDRAULIC QUANTITY INDICATOR
2934 HYDRAULIC QUANTITY SENSOR

30 ICE AND RAIN PROTECTION

3000 ICE/RAIN PROTECTION SYSTEM
3010 AIRFOIL ANTI/DE-ICE SYSTEM
3020 AIR INTAKE ANTI/DE-ICE SYSTEM
3030 PITOT/STATIC ANTI-ICE SYSTEM
3040 WINDSHIELD/DOOR RAIN/ICE REMOVAL
3050 ANTENNA/RADOME ANTI-ICE/DE-ICE SYSTEM
3060 PROP/ROTOR ANTI-ICE/DE-ICE SYSTEM
3070 WATER LINE ANTI-ICE SYSTEM
3080 ICE DETECTION

31 INSTRUMENTS

3100 INDICATING/RECORDING SYSTEM
3110 INSTRUMENT PANEL
3120 INDEPENDENT INSTRUMENTS (CLOCK, ETC.)
3130 DATA RECORDERS (FLT/MAINT)
3140 CENTRAL COMPUTERS (EICAS)
3150 CENTRAL WARNING
3160 CENTRAL DISPLAY
3170 AUTOMATIC DATA

32 LANDING GEAR

3200 LANDING GEAR SYSTEM
3201 LANDING GEAR/WHEEL FAIRING
3210 MAIN LANDING GEAR
3211 MAIN LANDING GEAR ATTACH SECTION
3212 EMERGENCY FLOTATION SECTION
3213 MAIN LANDING GEAR STRUT/AXLE/TRUCK
3220 NOSE/TAIL LANDING GEAR
3221 NOSE/TAIL LANDING GEAR ATTACH SECTION
3222 NOSE/TAIL LANDING GEAR STRUT/AXLE
3230 LANDING GEAR RETRACT/EXT. SYSTEM
3231 LANDING GEAR DOOR RETRACT SECTION
3232 LANDING GEAR DOOR ACTUATOR
3233 LANDING GEAR ACTUATOR
3234 LANDING GEAR SELECTOR
3240 LANDING GEAR BRAKE SYSTEM
3241 BRAKE ANTI-SKID SECTION
3242 BRAKE
3243 MASTER CYL/BRAKE VALVE
3244 TIRE
3245 TIRE TUBE
3246 WHEEL/SKI/FLOAT
3250 LANDING GEAR STEERING SYSTEM
3251 STEERING UNIT
3252 SHIMMY DAMPER
3260 LANDING GEAR POSITION & WARNING
3270 AUXILIARY GEAR (TAIL SKID)

33 LIGHTS

3300 LIGHTING SYSTEM
3310 FLIGHT COMPARTMENT LIGHTING
3320 PASSENGER COMPARTMENT LIGHTING
3330 CARGO COMPARTMENT LIGHTING
3340 EXTERIOR LIGHTING
3350 EMERGENCY LIGHTING

34 NAVIGATION

3400 NAVIGATION SYSTEM
3410 FLIGHT ENVIRONMENT DATA
3411 PITOT/STATIC SYSTEM
3412 OUTSIDE AIR TEMP. IND./SENSOR
3413 RATE OF CLIMB INDICATOR
3414 AIRSPEED/MACH INDICATING
3415 HIGH SPEED WARNING
3416 ALTIMETER, BAROMETRIC/ENCODER

34 NAVIGATION CONT'D

3417 AIR DATA COMPUTER
3418 STALL WARNING SYSTEM
3420 ATTITUDE AND DIRECTION DATA SYSTEM
3421 ATTITUDE GYRO & IND. SYSTEM
3422 DIRECTIONAL GYRO & IND. SYSTEM
3423 MAGNETIC COMPASS
3424 TURN & BANK/RATE OF TURN INDICATOR
3425 INTEGRATED FLT. DIRECTOR SYSTEM
3430 LANDING & TAXI AIDS
3431 LOCALIZER/VOR SYSTEM
3432 GLIDE SLOPE SYSTEM
3433 MICROWAVE LANDING SYSTEM
3434 MARKER BEACON SYSTEM
3435 HEADS UP DISPLAY SYSTEM
3436 WIND SHEAR DETECTION SYSTEM
3440 INDEPENDENT POS. DETERMINING SYSTEM
3441 INERTIAL GUIDANCE SYSTEM
3442 WEATHER RADAR SYSTEM
3443 DOPPLER SYSTEM
3444 GROUND PROXIMITY SYSTEM
3445 AIR COLLISION AVOIDANCE SYSTEM (TCAS)
3446 NON RADAR WEATHER SYSTEM
3450 DEPENDENT POSITION DETERMINING SYSTEM
3451 DME/TACAN SYSTEM
3452 ATC TRANSPONDER SYSTEM
3453 LORAN SYSTEM
3454 VOR SYSTEM
3455 ADF SYSTEM
3456 OMEGA NAVIGATION SYSTEM
3457 GLOBAL POSITIONING SYSTEM
3460 FLIGHT MANAGE. COMPUTING SYSTEM

35 OXYGEN

3500 OXYGEN SYSTEM
3510 CREW OXYGEN SYSTEM
3520 PASSENGER OXYGEN SYSTEM
3530 PORTABLE OXYGEN SYSTEM

36 PNEUMATIC

3600 PNEUMATIC SYSTEM
3610 PNEUMATIC DISTRIBUTION SYSTEM
3620 PNEUMATIC INDICATING SYSTEM

37 VACUUM

3700 VACUUM SYSTEM
3710 VACUUM DISTRIBUTION SYSTEM
3720 VACUUM INDICATING SYSTEM

38 WATER/WASTE

3800 WATER & WASTE SYSTEM
3810 POTABLE WATER SYSTEM
3820 WASH WATER SYSTEM
3830 WASTE DISPOSAL SYSTEM
3840 AIR SUPPLY (WATER PRESS. SYSTEM)

45 CENTRAL MAINT. SYSTEM

4500 CENTRAL MAINT. COMPUTER

49 AIRBORNE AUXILIARY POWER

4900 AIRBORNE APU SYSTEM
4910 APU COWLING/CONTAINMENT
4920 APU CORE ENGINE
4930 APU ENGINE FUEL & CONTROL
4940 APU START/IGNITION SYSTEM
4950 APU BLEED AIR SYSTEM
4960 APU CONTROLS
4970 APU INDICATING SYSTEM
4980 APU EXHAUST SYSTEM
4990 APU OIL SYSTEM

51 STANDARD PRACTICES/STRUCTURES

5100 STANDARD PRACTICES/STRUCTURES
5101 AIRCRAFT STRUCTURES
5102 BALLOON REPORTS

52 DOORS

5200 DOORS
5210 PASSENGER/CREW DOORS
5220 EMERGENCY EXIT
5230 CARGO/BAGGAGE DOORS
5240 SERVICE DOORS
5241 GALLEY DOORS
5242 E/E COMPARTMENT DOORS
5243 HYDRAULIC COMPARTMENT DOORS
5244 ACCESSORY COMPARTMENT DOORS
5245 AIR CONDITIONING COMPART. DOORS
5246 FLUID SERVICE DOORS
5247 APU DOORS
5248 TAIL CONE DOORS
5250 FIXED INNER DOORS
5260 ENTRANCE STAIRS
5270 DOOR WARNING SYSTEM
5280 LANDING GEAR DOORS

53 FUSELAGE

5300 FUSELAGE STRUCTURE (GENERAL)
5301 AERIAL TOW EQUIPMENT
5302 ROTORCRAFT TAIL BOOM
5310 FUSELAGE MAIN STRUCTURE
5311 FUSELAGE MAIN FRAME
5312 FUSELAGE MAIN BULKHEAD
5313 FUSELAGE MAIN LONGERON/STRINGER
5314 FUSELAGE MAIN KEEL
5315 FUSELAGE MAIN FLOOR BEAM
5320 FUSELAGE MISCELLANEOUS STRUCTURE
5321 FUSELAGE FLOOR PANEL
5322 FUSELAGE INTERNAL MOUNT STRUCTURE
5323 FUSELAGE INTERNAL STAIRS
5324 FUSELAGE FIXED PARTITIONS
5330 FUSELAGE MAIN PLATE/SKIN
5340 FUSELAGE MAIN ATTACH FITTINGS
5341 WING ATTACH FITTINGS (ON FUSELAGE)
5342 STABILIZER ATTACH FITTINGS
5343 LANDING GEAR ATTACH FITTINGS
5344 FUSELAGE DOOR HINGES
5345 FUSELAGE EQUIPMENT ATTACH FITTINGS
5346 POWERPLANT ATTACH FITTINGS
5347 SEAT/CARGO ATTACH FITTINGS
5350 FUSELAGE AERODYNAMIC FAIRINGS

54 NACELLES/PYLONS

5400 NACELLE/PYLON STRUCTURE
5410 MAIN FRAME (ON NACELLE/PYLON)
5411 FRAME/SPAR/RIB(NACELLE/PYLON)
5412 BULKHEAD/FIREWALL (NAC/PYLON)
5413 LONGERON/STRINGER (NAC/PYLON)
5414 PLATE SKIN (NAC/PYLONS)
5415 ATTACH FITTINGS (NAC/PYLON)

55 STABILIZERS

5500 EMPENNAGE STRUCTURE
5510 HORIZONTAL STABILIZER STRUCTURE
5511 HORIZONTAL STABILIZER SPAR/RIB
5512 HORIZONTAL STABILIZER PLATE/SKIN
5513 HORIZONTAL STABILIZER TAB STRUCTURE
5520 ELEVATOR STRUCTURE

55 STABILIZERS CONT'D

5521 ELEVATOR SPAR/RIB STRUCTURE
5522 ELEVATOR PLATES/SKIN STRUCTURE
5523 ELEVATOR TAB STRUCTURE
5530 VERTICAL STABILIZER STRUCTURE
5531 VERTICAL STABILIZER SPAR/RIB STRUCTURE
5532 VERTICAL STABILIZER PLATES/SKIN
5533 VENTRAL STRUCTURE (ON VERT. STAB)
5540 RUDDER STRUCTURE
5541 RUDDER SPAR/RIB STRUCTURE
5542 RUDDER PLATE/SKIN STRUCTURE
5543 RUDDER TAB STRUCTURE
5550 EMPENNAGE FLT. CONT. ATTACH FITTING
5551 HORIZONTAL STABILIZER ATTACH FITTING
5552 ELEVATOR/TAB ATTACH FITTINGS
5553 VERT. STAB. ATTACH FITTINGS
5554 RUDDER/TAB ATTACH FITTINGS

56 WINDOWS

5600 WINDOW/WINDSHIELD SYSTEM
5610 FLIGHT COMPARTMENT WINDOWS
5620 PASSENGER COMPARTMENT WINDOWS
5630 DOOR WINDOWS
5640 INSPECTION WINDOWS

57 WINGS

5700 WING STRUCTURE
5710 WING MAIN FRAME STRUCTURE
5711 WING SPAR STRUCTURE
5712 WING RIB STRUCTURE
5713 WING LONGERON/STRINGER
5714 WING CENTER BOX
5720 WING MISCELLANEOUS STRUCTURE
5730 WING PLATES/SKINS
5740 WING ATTACH FITTINGS
5741 WING, FUSELAGE ATTACH FITTINGS
5742 WING, NAC/PYLON ATTACH FITTINGS
5743 WING, LANDING GEAR ATTACH FITTINGS
5744 CONTROL SURFACE ATTACH FITTINGS
5750 WING CONTROL SURFACE STRUCTURE
5751 AILERON STRUCTURE
5752 AILERON TAB STRUCTURE
5753 TE FLAP STRUCTURE
5754 LEADING EDGE DEVICE STRUCTURE
5755 SPOILER STRUCTURE

61 PROPELLERS/PROPULSORS

6100 PROPELLER SYSTEM
6110 PROPELLER ASSEMBLY
6111 PROPELLER BLADE SECTION
6112 PROPELLER DE-ICE BOOT SECTION
6113 PROPELLER SPINNER SECTION
6114 PROPELLER HUB SECTION
6120 PROPELLER CONTROL SYSTEM
6121 PROPELLER SYNCHRONIZER SECTION
6122 PROPELLER GOVERNOR
6123 PROPELLER FEATHERING/REVERSING
6130 PROPELLER BRAKING
6140 PROPELLER INDICATING SYSTEM

62 MAIN ROTOR

6200 MAIN ROTOR SYSTEM
6210 MAIN ROTOR BLADES
6220 MAIN ROTOR HEAD
6230 MAIN ROTOR MAST/SWASHPLATE
6240 MAIN ROTOR INDICATING SYSTEM

63 MAIN ROTOR DRIVE

6300 MAIN ROTOR DRIVE SYSTEM
6310 ENGINE/TRANSMISSION COUPLING
6320 MAIN ROTOR GEARBOX
6321 MAIN ROTOR BRAKE
6322 ROTORCRAFT COOLING FAN SYSTEM
6330 MAIN ROTOR TRANSMISSION MOUNT
6340 ROTOR DRIVE INDICATING SYSTEM

64 TAIL ROTOR

6400 TAIL ROTOR SYSTEM
6410 TAIL ROTOR BLADE
6420 TAIL ROTOR HEAD
6440 TAIL ROTOR INDICATING SYSTEM

65 TAIL ROTOR DRIVE

6500 TAIL ROTOR DRIVE SYSTEM
6510 TAIL ROTOR DRIVE SHAFT
6520 TAIL ROTOR GEARBOX
6540 TAIL ROTOR DRIVE INDICATING SYSTEM

67 ROTORS FLIGHT CONTROL

6700 ROTORCRAFT FLIGHT CONTROL
6710 MAIN ROTOR CONTROL
6711 TILT ROTOR FLIGHT CONTROL
6720 TAIL ROTOR CONTROL SYSTEM
6730 ROTORCRAFT SERVO SYSTEM

71 POWERPLANT

7100 POWERPLANT SYSTEM
7110 ENGINE COWLING SYSTEM
7111 COWL FLAP SYSTEM
7112 ENGINE AIR BAFFLE SECTION
7120 ENGINE MOUNT SECTION
7130 ENGINE FIRESEALS
7160 ENGINE AIR INTAKE SYSTEM
7170 ENGINE DRAINS

72 TURBINE/TURBOPROP ENGINE

7200 ENGINE (TURBINE/TURBOPROP)
7210 TURBINE ENGINE REDUCTION GEAR
7220 TURBINE ENGINE AIR INLET SECTION
7230 TURBINE ENGINE COMPRESSOR SECTION
7240 TURBINE ENGINE COMBUSTION SECTION
7250 TURBINE SECTION
7260 TURBINE ENGINE ACCESSORY DRIVE
7261 TURBINE ENGINE OIL SYSTEM
7270 TURBINE ENGINE BYPASS SECTION

73 ENGINE FUEL & CONTROL

7300 ENGINE FUEL & CONTROL
7310 ENGINE FUEL DISTRIBUTION
7311 ENGINE FUEL-OIL COOLER
7312 FUEL HEATER
7313 FUEL INJECTOR NOZZLE
7314 ENGINE FUEL PUMP
7320 FUEL CONTROLLING SYSTEM
7321 FUEL CONTROL/ELECTRONIC
7322 FUEL CONTROL/CARBURETOR
7323 TURBINE GOVERNOR
7324 FUEL DIVIDER
7330 ENGINE FUEL INDICATING SYSTEM
7331 FUEL FLOW INDICATING
7332 FUEL PRESSURE INDICATING
7333 FUEL FLOW SENSOR
7334 FUEL PRESSURE SENSOR

74 IGNITION

7400 IGNITION SYSTEM
7410 IGNITION POWER SUPPLY
7411 LOW TENSION COIL
7412 EXCITER
7413 INDUCTION VIBRATOR
7414 MAGNETO/DISTRIBUTOR
7420 IGNITION HARNESS (DISTRIBUTION)
7421 SPARK PLUG/IGNITER
7430 IGNITION SWITCHING

75 AIR

7500 ENGINE BLEED AIR SYSTEM
7510 ENGINE ANTI-ICING SYSTEM
7520 ENGINE COOLING SYSTEM
7530 COMPRESSOR BLEED CONTROL
7531 COMPRESSOR BLEED GOVERNOR
7532 COMPRESSOR BLEED VALVE
7540 BLEED AIR INDICATING SYSTEM

76 ENGINE CONTROLS

7600 ENGINE CONTROLS
7601 ENGINE SYNCHRONIZING
7602 MIXTURE CONTROL
7603 POWER LEVER
7620 ENGINE EMERGENCY SHUTDOWN SYSTEM

77 ENGINE INDICATING

7700 ENGINE INDICATING SYSTEM
7710 POWER INDICATING SYSTEM
7711 ENGINE PRESSURE RATIO (EPR)
7712 ENGINE BMEP/TORQUE INDICATING
7713 MANIFOLD PRESSURE (MP) INDICATING
7714 ENGINE RPM INDICATING SYSTEM
7720 ENGINE TEMP. INDICATING SYSTEM
7721 CYLINDER HEAD TEMP (CHT) INDICATING
7722 ENG. EGT/TIT INDICATING SYSTEM
7730 ENGINE IGNITION ANALYZER SYSTEM
7731 ENGINE IGNITION ANALYZER
7732 ENGINE VIBRATION ANALYZER
7740 ENGINE INTEGRATED INSTRUMENT SYSTEM

78 ENGINE EXHAUST

7800 ENGINE EXHAUST SYSTEM
7810 ENGINE COLLECTOR/TAILPIPE/NOZZLE
7820 ENGINE NOISE SUPPRESSOR
7830 THRUST REVERSER

79 ENGINE OIL

7900 ENGINE OIL SYSTEM (AIRFRAME)
7910 ENGINE OIL STORAGE (AIRFRAME)
7920 ENGINE OIL DISTRIBUTION (AIRFRAME)
7921 ENGINE OIL COOLER
7922 ENGINE OIL TEMP. REGULATOR
7923 OIL SHUTOFF VALVE
7930 ENGINE OIL INDICATING SYSTEM
7931 ENGINE OIL PRESSURE
7932 ENGINE OIL QUANTITY
7933 ENGINE OIL TEMPERATURE

80 STARTING

8000 ENGINE STARTING SYSTEM
8010 ENGINE CRANKING
8011 ENGINE STARTER
8012 ENGINE START VALVES/CONTROLS

81 TURBOCHARGING

8100 EXHAUST TURBINE SYSTEM (RECIP)
8110 POWER RECOVERY TURBINE (RECIP)
8120 EXHAUST TURBOCHARGER

82 WATER INJECTION

8200 WATER INJECTION SYSTEM

83 ACCESSORY GEARBOXES

8300 ACCESSORY GEARBOXES

85 RECIPROCATING ENGINE

8500 ENGINE (RECIPROCATING)
8510 RECIPROCATING ENGINE FRONT SECTION
8520 RECIPROCATING ENGINE POWER SECTION
8530 RECIPROCATING ENGINE CYLINDER SECTION
8540 RECIPROCATING ENGINE REAR SECTION
8550 RECIPROCATING ENGINE OIL SYSTEM

MECHANICS CREED

UPON MY HONOR I swear that I shall hold in sacred trust the rights and privileges conferred upon me as a certified mechanic. Knowing full well that the safety and lives of others are dependent upon my skill and judgment, I shall never knowingly subject others to risks which I would not be willing to assume for myself, or for those dear to me.

IN DISCHARGING this trust, I pledge myself never to undertake work or approve work which I feel to be beyond the limits of my knowledge; nor shall I allow any non-certificated superior to persuade me to approve aircraft or equipment as airworthy against my better judgment; nor shall I permit my judgment to be influenced by money or other personal gain; nor shall I pass as airworthy aircraft or equipment about which I am in doubt, either as a result of direct inspection or uncertainty regarding the ability of others who have worked on it to accomplish their work satisfactorily.

I REALIZE the grave responsibility which is mine as a certified airman, to exercise my judgment on the airworthiness of aircraft and equipment. I, therefore, pledge unyielding adherence to these precepts for the advancement of aviation and for the dignity of my vocation.